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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

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Use of Military Land for Agriculture During World War II†

By ALVIN T. M. LEE*

ACQUISITION of land for military and war production purposes during World War II reached a total of 6,746,000 acres purchased from private owners, 10,285,000 acres leased from individuals, states, and local governments, and 33,080,000 acres of existing federally-owned land used under temporary arrangements. In addition, there were secret sites having land of these various classes of ownership that were not reported in official statistics. Needless to say, the use of approximately 50,000,000 acres by the War and Navy Departments during World War II, in addition to the 2½ million acres these Departments had before the war, could have encroached considerably on the Nation's agricultural resources which were so vital to the war effort. That this did not occur is due in large part to the efforts of all concerned to continue agricultural uses on this land where doing so did not interfere with primary war use.

The land obtained by the War and Navy Departments through lease or that obtained through temporary use arrangements with other federal agencies was about evenly divided between forest, grazing, and desert land. There may have been grazing on some of the desert land but it was of low value. The cropland acquired was almost exclusively on the land bought from private owners. The major uses existing on the land bought by these Departments during World War II are given in Table I.

This article deals almost exclusively with agricultural use of War Department land. This Department had a national program for administering the leasing of land to farmers and after 1942 had a policy of doing so wherever feasible so as to contribute to wartime production of food, maintain the land in better condition while in government ownership, and

† For a full report on all phases of the military land program, see: Alvin T. M. Lee, *Acquisition and Use of Land for Military and War Production Purposes, World War II*, Bureau of Agricultural Economics, U. S. Department of Agriculture, 1947. (In press.)

* Bureau of Agricultural Economics.

lower the otherwise necessary costs for maintenance, such as fire control and the cutting of weeds.

The Navy Department did not have a national policy for leasing of land to farmers. Its acquisitions were not so large. It bought 1,017,080 acres as compared with the 5,728,076 acres bought by the War Department. Its use of existing federally-owned land and leased land also was proportionally smaller. As a rule, most of its large sites were adjacent to the coasts for use as training areas for the Marines and thus had large areas of swamp and forest lands. The large inland sites were smaller in number; they were used primarily for ordnance storage and proving grounds. Many of the Naval airfields were located inland and on good agricultural land. But their war use was not compatible with extensive concurrent agricultural use. The limited agricultural uses of Navy Department land were usually considered as local matters and were carried out under the jurisdiction of the commanding officer at the site.

TABLE I—MAJOR USE OF LAND BEFORE PURCHASE BY THE WAR AND NAVY DEPARTMENTS, WORLD WAR II PURCHASES[1]

Item	War Dept. *Acres*	Navy Dept.[2] *Acres*	U. S. Total *Acres*
Cropland	1,434,229	272,510	1,706,739
Pasture and Range	2,061,705	413,079	2,474,784
Woodland and Forest	1,888,028	269,085	2,157,113
Swamp, Waste, Urban, and Miscellaneous	218,496	62,406	280,902
TOTAL	[3]5,602,458	1,017,080	6,619,538
	Percentage of Total		
	Percent	Percent	Percent
Cropland	25.6	26.8	25.8
Pasture and Range	36.8	40.6	37.4
Woodland and Forest	33.7	26.5	32.6
Swamp, Waste, Urban, and Miscellaneous	3.9	6.1	4.2
TOTAL	100.0	100.0	100.0

[1]Classifications made, in fall of 1943, cooperatively by War, Navy, and Agriculture Departments, and state agricultural colleges.
[2]Sites the Navy believed would become permanent installations were not classified. These totals derived by multiplying total acreage bought by the percentage arrived at in distribution of classified acreage; done separately for different parts of the country to obtain maximum accuracy.
[3] As of Jan. 1, 1945. Does not include easements and other lesser interests.

The War Department's program of leasing land to farmers is an illustration of how federal land can be made available for use by local farmers and still serve its primary purposes, such as military training, ordnance production, and storage. The spacing of buildings in the ordnance production and storage sites makes it necessary to have large areas of open land. In other types of projects, such as bombing ranges in grazing areas, the intermittent use of the various parts of the project made it possible for cattlemen to graze the areas for long enough periods to harvest all the available forage.

Not all of the agricultural use of War Department lands was on a formalized basis. In some of the early acquisitions, especially on the range, livestock continued to graze the areas even though all previous operators had been bought out. Since the areas were not fenced, other nearby cattlemen would allow their cattle to graze into the military site. They were thus trespassing on government land and were doing so at their own risk.

On some areas, such as the 480,000-acre Aerial Gunnery Range near Casper, Wyoming, concurrent use agreements were entered into. The government paid the 28 ranchers a nominal sum for the right to carry on aerial gunnery practice in the area. The ranchers continued to operate as previously. They did so at their own risk and relinquished the right to make claims for loss of life or livestock. However, damage to ranch improvements was compensated for by the government. As uninhabited areas are so extensive on the range and the grazing herds of cattle so far apart, it was possible for the training units to locate their daily

operations over areas where livestock was not present at that particular time.

Much of the existing federally-owned land and the land leased from private individuals, states, and local governments was used concurrently by the War Department and by ranchers. Ranchers preferred to take the necessary risk, which seemed small, rather than to forego favorable income opportunities when cattle prices were high.

In some sites, such as the Alamogordo Bombing Range in New Mexico, no grazing was permitted. Lease and Suspension Agreements were developed under wartime legislation which permitted a government agency to make yearly payments to ranchers for the estimated annual value of the land which they had been using and which was required for war purposes.[1] Under this arrangement the rancher leased to the government his private holdings and suspended his rights to the public land he was using. Under this arrangement the former operators will automatically have an opportunity to return to their former sites of operation when the land is no longer needed for military training.

There are no statistics on the acreage of military land used by farmers and ranchers under trespass. Neither are there data on the acreage under concurrent use arrangement. The data available are for the lands which the War Department leased to farmers and occurred primarily on the land bought from private owners. This leasing was a transaction entirely separate from acquisition of the land. The War Department had acquired exclusive use of this land and later found that it would be possible to allow farmers to use it. The development of this leasing program is an indication of the time and extent to which military authorities recognized the feasibility and desirability of using military land for agricultural use.

[1] 56 Stat. 654, July 9, 1942, 43 U. S. C. 315 q.

Extent of Leasing for Agricultural Use

Formal leasing of War Department land was more important in the projects which were located on productive agricultural land. It was in such areas that the program received its greatest impetus. Farmers in the vicinity of ordnance plants and other projects with vacant crop and pasture land saw a chance to increase agricultural production for the Nation and to increase income for themselves if they could lease some of the idle land. Notably, in the small-grain sections of the Midwest the vacant land in military sites caused an increase in weed infestation. In the East, too, at sites with neglected orchards there was complaint that these served as breeding grounds for insects that would spread to nearby orchards. Farmers demanded that something be done about these problems; leasing the land to farmers was a happy solution. Some commanding officers saw the leasing program as a means of reducing maintenance costs.

Use of War Department land for agricultural production was initiated on a small scale in 1943. In 1944, 377,579 acres were leased out to farmers and in 1946 reached a total of over 1 million acres (Table II).

TABLE II—Acreage Leased and Rentals Obtained on War Department Land Outleased for Agricultural Production, 1944–46[1]

Item	Unit	1944	1945	1946
Projects	Number	149	201	251
Lessees	Number	992	1,038	1,250
Acres outleased	Acres	377,579	895,504	1,145,993
Rents obtained	Dollars	717,944	894,988	1,240,268

[1] Data summarized from individual leases in War Department files.

The annual increase in the acreage outleased to farmers was due in large part to the favorable results of the pro-

gram. The expansion was due partly to the leasing of additional land at the projects where the program was under way and partly to the inclusion of additional projects. For example, wide bands of land next to the inner fence at Nebraska Ordnance Plant near Wahoo, Nebraska, and the Gopher Ordnance Plant south of St. Paul, Minnesota, which had been maintained by the contractors in 1943, were leased to farmers in 1944 and the later years. In some areas, as at the Scioto Ordnance Plant in Ohio and the Elwood-Kankakee Ordnance Works in Illinois, farmers were allowed to come within the inner fence to operate open spaces between buildings.

Land in the safety strips around ordnance works was the chief source of acreage for agricultural leasing. At most other sites—as at camps, airfields, and proving grounds—only minor acreages in scattered locations or corners of the projects could be leased. Of the approximately 378,000 acres leased to farmers in 1944, about two-thirds were in ordnance sites. More than 20 percent of the land in ordnance sites was leased for agricultural production in 1944, attesting to the extensive open safety areas around these installations. The final determination as to whether land should be leased was the authority of the commanding officer at each project. The safety precautions necessary varied somewhat, depending upon the type of activity at the project, the ease with which farming operations could be kept under surveillance of guards, and the attitude of the commanding officer.

The War Department's agricultural leasing program was carried out in 36 states in 1944, in 40 states in 1945, and in 42 states in 1946. In some of the states only small acreages were leased for farming. Cessation of leasing after 1943 on several projects was due to their surplus status; later they were transferred to other public uses or returned to private ownership.

About 17 percent of the acreage leased to farmers and 67 percent of the rentals, in 1946, were in the North Central States of Illinois, Indiana, Iowa, Kansas, Kentucky, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin. Illinois ranked first in rentals paid—$338,088 for 50,810 acres.

California, with 222,349 acres and a rental of $130,648, and Oregon, with 95,297 acres and a rental of $29,554, were two states in the West that had large areas of military land leased for agricultural use. Most of the acreage in California was accounted for by two projects—Hunter-Liggett Military Reservation, with 118,326 acres and a rental of $74,598, and Camp Beale, with 74,085 acres and a rental of $39,437. The leased land in these two projects was used for grazing. Most of the other sites in California involved relatively small acreages of crop or fruit land which commanded high acreage rentals. Camp Adair in Oregon accounted for 50,030 acres and $15,820 rental.

Most of the land leased by producers in the Intermountain States and the semiarid parts of the Great Plains States was used for grazing. With the exception of South Dakota, where the Rapid City Aerial Gunnery Range accounted for 342,680 acres leased for grazing, the acreage outleased in this region by the War Department was not large because most of the land taken over for military use had prior agricultural use arrangements which as a rule continued in force. Where grazing was permitted by the War Department, the permits which the ranchers had with the Grazing Service or the Forest Service remained in force.

Only a small part of the land bought in the South was outleased for agricultural

use. This was due in part to the low quality of much of the land, lack of demand by farmers, and the predominance of types of projects on which it was not feasible to outlease any of the land.

The land-acquisition program was limited in the Northeastern States, both as to purchased land and land transferred from other federal agencies. The volume of outleased acreage also was small but a large proportion of the land in such projects as Lake Ontario Ordnance Works near Niagara Falls, New York, and Keystone Ordnance Works in western Pennsylvania, was made available for agricultural use.

Development of the Leasing Program

Leasing of land to farmers on an extensive scale was a new responsibility for the War Department. The limited land became available so late in 1943 that there was little time for program development. There was no time for rational planning of crop rotations, determining of rental rates, platting of lease tracts, and preparing the most satisfactory lease form. Lease tracts as a rule were laid out in accordance with former property boundaries. A lease form already in use for leasing nonagricultural land was adapted to the new purpose with no provision as to methods of managing the land except that "the lessee shall use said property for agricultural or grazing purposes and shall plant, cultivate, and harvest such crops on said property as are in accordance with approved practices of good husbandry."

Although most of the original leases were to terminate at the end of one year, the Secretary of War, in the act of July 28, 1892 (27 Stat. 321), had the authority to make leases which would run up to 5 years. One-year leases gave War Department personnel time to observe the operation of the program and a chance to make modifications for later years. At several sites, however, the original leases were made for a 5-year term, thus leaving no opportunity for modifying the lease in instances where improper land management was observed.

The basic provisions of the lease used in outleasing agricultural land called for cash rental, revocation at will by the Secretary of War on 30-days' notice if needed for war purposes, compensation to lessee in the event of revocation, and the right of the commanding officer or other competent military officer to enter leased premises at any time.

One of the weaknesses in the program when it was first initiated was the lack of a plan for crop rotations. Provision for crop rotation was later found necessary in some areas to prevent the continuance of a one-crop system of land use and a resultant exploitation of government land. In some places, where no specific restrictions were included in the lease, the lessees plowed up long-established sod on land that was too steep for cultivation and it was found that waterways, established in former years and paid for through the conservation program of the Agricultural Adjustment Agency, were being plowed up.

At some projects, as the Nebraska Ordnance, a crop rotation was not provided for but erosion hazards were prevented by including a statement in the lease as to which hay and grass land should not be plowed.

The crop-rotation problem was handled differently in the different division offices. The Chicago office believed it impracticable to make a good crop-rotation plan the first lease year. In most instances the land had been idle for 2, 3, or even 4 years and was heavily infested with weeds. Besides, it was believed that planning a specific rotation to be incorporated in the lease without con-

sulting the tenant would be unsatisfactory. This difficulty did not hold true the second year, as leases were renewed with the same lessee through negotiation. First offering of land for lease, however, was by sealed bid, and the land went to the highest bidder. It was believed most feasible to advertise for bids for a 1-year lease with no restrictions. Before the end of the first year the government representative would find out whether the lessee wished to lease the land again; if he did and if his operations so far had been satisfactory the rental term and the crop rotation for the succeeding term would be negotiated.

In the office at Columbus, Ohio, early consideration was given to the need for safeguarding and maintaining the productivity of the soil. A crop-rotation plan was worked out from the first lease year. It was found that this did not deter farmers from bidding for the tracts except where the land was of doubtful productivity. Immediate inclusion of a crop-rotation plan was facilitated by the fact that the formal sealed-bid system of letting leases was not used or was modified somewhat. Bids were made personally. Because of the personal contacts it was possible to negotiate a land-management plan at once and local farmers obtained a larger portion of the leases than was usual elsewhere. Average farmers, among them many former owners, hesitated to submit sealed bids and they often felt they were entitled to bargain rates anyway. Thus, they often lost out to those more familiar with formal business ways.

Subdivision of lease tracts was another important phase of the leasing program. In most projects the tracts to be outleased were of a type of land and a size that would permit local farmers to integrate their use with the home farm. Only occasionally did the former buildings remain, thus permitting former farms to be leased as complete units. Some of the few exceptions were found at Sangamon Ordnance Works near Springfield, Illinois, and the Wabash River Ordnance Works near Terre Haute, Indiana. Most of the leased land at ordnance sites was cropland, rented to nearby farmers in 40-, 80-, or 100-acre fields that could be worked with their own farm equipment and labor. Small acreages of pasture land on such tracts were generally left unused unless they were suitable for hay. In parts of several of the sites where the land was unsuited to tillage it was advertised for pasture land. Usually a larger livestock producer or feeder leased it or enterprising individuals would lease considerable pasture acreage and take in neighboring livestock on a unit rental basis. This was done at the Gopher Ordnance Works in Minnesota.

It was not feasible to subdivide the lease tracts into what would make complete economic farm units. Local farmers primarily wanted to get additional cropland that could be worked without upsetting the plans for the home place. The land to be leased at the Wolf Creek-Milan Ordnance Works in Tennessee was laid out on the basis of adequate-sized farm units with a combination of pasture and cropland but only a few bids came from local farmers because the tracts were larger than they could feasibly combine with their other work. These local farmers had neither the labor nor the equipment to work so much additional land. As a result, a single large operator obtained most of the tracts.

Some one individual was frequently the successful bidder on many of the tracts leased at the different sites even though the land were subdivided to give a chance to nearby farmers. Local farmers may have been mostly to blame

for this, as they were often reluctant to bid a reasonable price. A desirable policy might have been to limit the number of tracts that any one individual could lease, however, with the right to reject unreasonably low bids and to make other adjustments where necessary. Large operators usually entered these operations on a speculative and temporary basis and would go all-out for a one-crop system of farming. Partnerships were sometimes formed in which one partner would furnish the equipment and pay the rent and the younger partner would assume responsibility for the work.

Rental was for cash only. Other types of arrangement might have required the War Department to have a large management staff to supervise land operation and to divide and dispose of crops. If the lessee was required to follow certain practices, as seeding grasses or applying lime, the cash rental reflected these costs. Compensating the lessee for this after performance was not authorized. Such an arrangement might have been desirable, however, and might have insured better land management, although cost of administration would have been greater.

Rental rates were low compared with prevailing rents in the community for the sites where the land was of only fair productivity and where individuals in the community were not aggressively seeking more land. Competitive bidding was strong and the rental rates were as high or higher than prevailing rates in the good land areas where the acreages to be leased were highly productive and farming was carried out by modern mechanical means.

Lack of fences was a deterrent in leasing pasture lands or in obtaining normal rental rates for such land. The War Department did not authorize construction of fences; the lessee was required to make whatever outlay was necessary. As the lease might be revoked for military reasons, the bids on pasture land reflected the amortization of the cost of building fences over a period of 1 year rather than over the normal lifetime of the fence.

Management Arrangements with Other Agencies

The War Department in some cases has given responsibility of land management to the federal agency which had a land management program on similar land nearby. Under such arrangements the War Department reserves the right to take over use of the area at any time it may become necessary. Supervision over use of the land, collection of rents, preparation of leases or permits and similar matters are the responsibility of the agency to which the War Department gives the job of land management.

Such arrangements, so far, have been worked out primarily for projects located in grazing areas. Examples are the Rapid City Aerial Gunnery Range in South Dakota, Lovell National Guard Target Range in Wyoming, and the Tooele Ordnance Depot in Utah.

The Rapid City Aerial Gunnery Range is a 342,680-acre site within the exterior boundaries of the Pine Ridge Indian Reservation. Before the war the ownership of the area that was later taken over by the War Department was distributed as follows: Indian tribal lands, 93,430 acres; deeded land owned by non-Indian individuals, 48,870 acres; Indian allotted lands, 193,600 acres; and federally-owned National Park Service lands, 6,780 acres. The War Department, in 1942, purchased in fee the deeded and allotted land, leased the tribal land, and obtained temporary use of the National Park Service land already federally-owned. Before acquisition, 125 Indian families and about 40 other families lived in the area.

Arrangements were made, in 1945, through which the Pine Ridge Indian

Agency was temporarily delegated the authority to administer the land in this aerial gunnery range for the benefit of the Indians.

Similar arrangements were made that year whereby the use of grazing land in the Lovell National Guard Target Range Military Reservation was placed under the direction of the Grazing Service (now Bureau of Land Management) of the Department of the Interior. Use of this land was to be in accordance with the provision of the Taylor Grazing Act.[2]

Legislative authority gives the President power to raise to national forest status any of the land within military projects that the Secretary of Agriculture and the Secretary of the Department administering the area agree are suitable for the production of timber. Such land would then be administered by the Secretary of Agriculture for national forest purposes in accordance with such general plans as might be jointly approved by the Secretary of Agriculture and the Secretary formerly administering the area. Such procedure gives dual status to the land, since under this law the military land so affected remains subject to the unhampered use of the War or Navy Department for purposes of national defense.[3]

Transferring responsibility of land management to agencies that have staffs for this specific purpose is a desirable arrangement. It avoids duplication in governmental functions, and it places responsibilities of land management with those best qualified by training and experience to do this particular type of work. Moreover, the longer tenure of office at a given location of the personnel of civil agencies leads to more continuity of interest in land management problems. Through cooperative land management arrangements and direct "outleasing" by the War and Navy Departments it will be possible to retain more sites as standby, while at the same time the land will be used for peacetime purposes.

Illustrative Projects

A description of the agricultural leasing at selected sites will give the reader a better comprehension of the program.

Wabash River Ordnance Works. This project, located in Vermillion County, Indiana, included 21,960 acres acquired by the War Department in the fall of 1941. A change in plans made it unnecessary to extend the construction area as far westward as was originally intended, so about 5,440 acres on the western side of the project were beyond the normal safety area. All of this part and some of the northern and southern fringes of the area constituted the 9,610 acres leased out in 1943 at a rental of $80,646. In 1944 the acreage leased for agriculture was increased to 14,506 acres at a rental of $82,409. In 1945 the area was again increased to 16,009 acres and the rentals reached $97,589. The 1944 addition was made possible by letting the farmers operate up to 300 feet from the chain-link fence, whereas in 1943 they were allowed to come only within one-half mile of the fence. In addition, the river-bottom area was leased in 1944. In 1945, the addition came through allowing operation on the acreage adjacent to the pump area, the properties bordering on the pipeline, and two other tracts adjacent to the administration buildings and the fence.

Reduction in rental rates in 1944 by about 30 percent from 1943 rates was due to the inclusion of a more nearly balanced crop rotation in 1944. In the earlier year, about 90 percent of the cropland was in corn. The productivity of the land, together with prospective high

[2] 48 Stat. 1269, June 28, 1934, as amended by 49 Stat. 1976, June 26, 1936, re U. S. C. 315.

[3] 43 Stat. 653, June 7, 1924, 16 U. S. C. 471, 505.

prices for corn, warranted high rentals when the operators were to be allowed to devote the entire acreage to corn. In 1943 the cropland in the good land area in the western part of the project brought a uniform rent of $15 an acre. The cropland in the southern part brought $8 to $15 an acre and that in the rougher part on the north and southeast, from $4 to $8 an acre.[4]

Lessees at the site proved to be cooperative in adopting crop rotations and in the seeding of legumes and grasses. No such seeding was done in 1943 under a nonrestricted lease; but in 1944, 2,178 acres and in 1945, 2,887 acres of legumes and grasses were seeded. The fine stands of these seedings found during a personal inspection of the fields, in the spring of 1945, attested to the good work being done. The increased emphasis placed on rotations is shown by the decrease in the acreage of corn and the increase in hay and small grains (Table III).

TABLE III—MAJOR USES OF LAND LEASED FOR AGRICULTURAL USE, WABASH RIVER ORDNANCE WORKS, VERMILLION COUNTY, INDIANA, 1944 AND 1945

Land Use	1944	1945
	Acres	*Acres*
Corn	4,495	3,929
Soybeans	2,906	3,294
Hay	83	2,258
Small Grains	2,186	2,887
Pasture, Woods, Waste, etc.	3,138	4,517
Legume Seeding	2,178	2,887

The importance of the leasing program at the Wabash River Ordnance site is shown by the following estimate of production for 1944: corn, 269,700 bushels; soybeans, 58,120 bushels; oats and wheat, 44,850 bushels; hay, 83 tons; and the grazing of 400 animal-units for 6 months.[5]

[4] Alvin T. M. Lee, *Agricultural Leasing Program at Wabash River Ordnance Works, Vermillion County, Indiana.* Bur. Agr. Econ., July 1943. (Ditto)

[5] Individual farm production estimates made by lessees and project manager.

Sangamon Ordnance Works. The Sangamon Ordnance Works near Springfield, Illinois, warrants mention because of the great demand for cropland like that found in this fertile area of the Corn Belt. This site included 19,094 acres. All except the southeastern corner of the site is level and highly productive cropland.

Corn and soybeans are the principal cash crops grown in the vicinity of the project. Livestock is only a minor enterprise except on the farms that make a specialty of winter feeding. Some of the farmers specialize in growing hybrid seed corn, as did one of the lessees.

The area leased in this site was 4,025 acres in 1943, 6,345 acres in 1944, and 7,585 acres in 1945. The rental obtained was $43,596, $104,643, and $112,839, respectively, representing per acre rates of $10.83, $16.49, and $14.88. There were 27 lessees with 33 leases. About half of the leases in force in June 1945 were for 1 year and the other half for 3 years. Almost half of the acreage outleased in this site was obtained by two lessees even though no lease tracts as platted were in excess of 200 acres. Limiting the number of lease tracts any one individual could obtain would have prevented concentration of such large acreages in the hands of single individuals or single partnerships (Table IV).

TABLE IV—LAND LEASED FOR AGRICULTURAL USE, SANGAMON ORDNANCE WORKS, SANGAMON COUNTY, ILLINOIS, 1945

Size of Lease Unit	Lessees	Acreage	Rental	
			Total	Per Acre
	Number	*Acres*	*Dollars*	*Dollars*
Less than 100	5	339	4,750	14.01
100–199	12	1,735	27,043	15.59
200–299	7	1,766	29,675	16.80
300–399	1	336	5,386	16.03
400–499	0	0	0	0.00
500 and over	2	3,409	45,985	13.49
Total or Average	27	7,585	112,839	14.88

Tooele Ordnance Depot. The Tooele Ordnance depot, near Salt Lake City, Utah, is in the arid grazing area. The project involves 24,905 acres. The War Department made arrangements by which a cooperative agreement was entered into by the Departments of War and the Interior with the Grantsville Conservation District. The conservation district was to plan the kind of program to be administered. The Department of the Interior was a party to the agreement because of the public domain land the War Department had under temporary use.

The Grantsville Conservation District subdivided 12,000 acres on the outer edges of the project into five grazing units. Permits were issued for grazing 13,000 sheep during the period November 15 to April 15 at a fee of 12 cents per sheep per month. Using a permit rather than a lease gave the permittees only the right to graze a specified number of sheep for a definite period. Allocation of specific numbers of sheep to definite areas made it possible to prevent overgrazing and misuse of the land.

Camp White Military Reservation, Oregon. Camp White, near Medford, Oregon, consisted of about 50,000 acres; 7,500 acres were public domain and the remainder was bought by the War Department. Late in 1943, 43,987 acres were made available for lease to stockmen. Two livestock associations were formed, one to use the Beagle area to the north and the other to use the Antelope area to the south.

The two groups were voluntary associations of all persons who had prior rights to graze. It included the landowners or land lessees who were engaged in bona fide livestock business and actually used some of the land before acquisition by the War Department. Pro rata preference was based on the number of livestock formerly run on the land. The lease stated that, in the determination of any question of priority or preference not covered in the lease, the law and custom pertaining to grazing permits granted by the Forest Service would be followed as closely as possible. The maximum number of livestock to be grazed at any one time was specified at 1,500 cattle and 300 sheep for the 22,489 acres in the Antelope area, and 2,000 cattle and 600 sheep for the 21,498 acres in the Beagle area. It is the responsibility of the association to prevent unauthorized grazing.

Both associations had a 1-year lease in 1944 and one had a 1-year lease in 1945. The present lease of the Antelope Creek Livestock Association runs from January 1, 1945 to December 31, 1950, at an annual rental of $2,700. The present lease of the other association is for the period January 1, 1946 to December 31, 1948, at an annual rental of $3,200.

Multiple Use of Publicly-Owned Land

Use of existing federally-owned land for military purposes in such a way as to cause a minimum of disturbance to established uses was a major accomplishment during World War II. Cooperative arrangements between the federal agencies concerned held to a minimum the purchase of privately-owned land. Disturbance of agricultural production was minimized by permitting agricultural use on much of the land. This kind of cooperation exists in normal times but could be more extensive so that certain lands suited to forestry, grazing, and other activities could be used for them and yet be available as standby and for military training.

Outleasing of open land in safety strips and other areas that are adapted to crop production, without interfering with its primary wartime use, did much to in-

crease agricultural production during the war. It would be desirable to initiate outleasing on all sites that are to be held as standby or kept for peacetime use. If leased to nearby farmers, it would give them added economic opportunities and, if proper safeguards were provided in the lease, would facilitate keeping the land in good productive condition. In addition, costs to the government for maintenance and fire protection would be reduced.

If extensive standby military sites are made available for outleasing to farmers on a permanent basis, consideration might be given to strengthening this phase of land management during peacetime. Measures to be considered might include (1) providing for crop rotation and good land-management practices in the lease in a way similar to that now being done by some of the War Department's division offices, (2) leasing at prices that are approximately the same as those prevailing in the community for similar types of land, and (3) subdividing the land into tracts of such size as to accommodate a large number of local farmers, and adopting leasing procedures that will prevent any one individual from leasing unusually large acreages. This restriction as to number of acres is particularly important where rental rates on public land are lower than prevailing rentals on private land.

Ancient Water Codes

Hammurabi, sixth king of the First Dynasty of Babylon, reigned for 55 years about 2250 B. C. His elaborate code of laws dealing with many angles of human relations included some water laws which are significant in our present plans for the use and control of rivers.

Hammurabi gave men and beasts first rights to water. Water for household use was second. Irrigation was third; navigation, fourth. Hammurabi also decreed penalties for wasting water to the damage of a neighbor's crops or property. Paragraphs 53-56 from *The Code of Hammurabi* read as follows:

"If a man neglect to strengthen his dyke and do not strengthen it, and a break be made in his dyke and the water carry away the farm land, the man in whose dyke the break has been made shall restore the grain which he has damaged.

"If he be not able to restore the grain, they shall sell him and his goods, and the farmers whose grain the water has carried away shall share (the results of the sale).

"If a man open his canal for irrigation and neglect it and the water carry away an adjacent field, he shall measure out grain on the basis of the adjacent fields."

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Homestead Tax Exemption: A Tenure Improvement Measure?

By RALEIGH BARLOWE*

DURING the last fifteen years thirteen states have enacted laws providing preferential tax treatment for homesteads. In general, tax experts and students of fiscal policy tend to frown upon the homestead tax exemption provisions incorporated in these laws. Part of this opposition stems from the dislike that many tax authorities have for using the general property tax as a social control measure as well as a revenue collection device. More basic, however, is the charge that the use of an exemption policy undermines both the "ability to pay" and the "benefits received" criteria upon which the property tax depends for much of its justification. Beyond this point, it also is pointed out that tax exemptions can lead to increased public borrowing, elimination of public services, and the institution of replacement taxes of a regressive nature.[1] Most tax economists recognize inequities in the general property tax system but prefer a frontal attack on these evils (improvements in administration and assessment procedure and limitations on reliance placed on property tax) to the approach suggested by exemption legislation.

Despite this critical view, however, the use of homestead tax exemptions has at various times been suggested as a farm tenure improvement measure.[2] Disregarding the fiscal and social policy aspects of the tax exemption idea, one might ask: what effect can the use of these exemptions have in bettering tenure conditions? More specifically, what influence might they have upon the various tenure groups —on owners and prospective owners, and on landlords and tenants? The consideration of these questions constitutes the primary purpose of this paper.

Background

Between 1932 and 1939 homestead tax exemption proposals were introduced in the legislatures of 33 states. Tax exemption laws were enacted in 11 states—Alabama, Arkansas, Florida, Georgia, Louisiana, Minnesota, Mississippi, Oklahoma, South Dakota, Texas and Wyoming—while other types of preferential tax treatment for homesteads were provided for in Iowa, Minnesota, and West Virginia. (In addition to these laws, constitutional amendments authorizing exemptions were ratified in North Carolina and Utah but were not followed up by statutory enactments.)

As the dates listed above suggest, the late depression, with its attendant problems of business stagnation, low incomes, and acute tax delinquencies, was largely responsible for this surge of interest in homestead tax exemptions. The idea itself is not entirely a product of depression conditions. It finds precedent in the earlier experiences of a number of states with tax exemption laws favoring special groups such as veterans and new

* Agricultural Economist, Bureau of Agric. Econ., U. S. Dept. of Agric.

[1] Cf., Nat'l Tax Assoc., *Proceedings of the Thirtieth Nat'l Conference*, 1937, pp. 100-133; *Proceedings of the Thirty-first Nat'l Conference*, 1938, pp. 788-805; also, Vernon L. Israelson, *Economic and Social Aspects of Homestead Tax Exemption*, unpublished University of Wisconsin doctorate, 1942, Chapters II and IV.

[2] For example, cf., President's Committee, Report on *Farm Tenancy*, p. 18 (February 1937); the recommendations of the Arkansas, Connecticut, Idaho, Maine, Nevada, New Hampshire, New York, Rhode Island, and Texas Agricultural Postwar Planning Reports, (February 1944); and Committee on Town and Country, Home Missions Council of North America and Federal Council of Churches of Christ in America, *Post-War Farms*, p. 21 (mimeographed) November 1944.

industries and also in the homestead tax exemption laws passed but later repealed in North and South Dakota and in Wisconsin between 1917 and 1925.

Actually, the homestead tax exemption idea is kindred to and might be considered an outgrowth of two other homestead movements, both of which have been dear to the general public during the course of the last century. The first of these is the homestead settlement movement which operated through the Homestead Act of 1862 and through numerous other state and federal homestead laws granting free title to limited portions of the public domain to heads of families who were willing and able to settle and cultivate these lands. The second is the homestead exemption movement which has brought laws in 43 states designed to protect owners of homesteads (defined as all the way from 40 to 320 acres, usually 160, with values varying from $500 to $8,000) against loss of title through seizure for certain kinds of debt in cases of insolvency. This movement also has favored the use of homestead rights as a supplement to and in some cases as a substitute for dower and curtesy rights in the devolution of property.

Like both of these earlier movements homestead tax exemptions aim at enhancing the position of the owner-operator. As such, the exemption idea has had considerable popular support in this country: support derived, no doubt, from a basic belief that owner-operatorship is inherently desirable, that freeholders rather than tenants provide the bulwark for popular government, and that public policy should deliberately aim at promoting the interests of small property owners, particularly the owners of so-called "family-sized" units.

In practically all the states where consideration was given to the possible use of homestead tax exemptions the argument was made that the exemptions would encourage home ownership among farm and city families, protect owners in times of economic stress, and discourage non-operating owners from investing in farm land. Claims also were made that the exemptions would force improvements in assessment practices, compel the local units of government to be more efficient and economical in their expenditures, and bring changes in the entire taxing structure so as to relieve property owners of part of the tax burden they had been carrying. Despite the lofty tone of these arguments, however, the most telling argument with many legislatures was the highly political fact that homestead tax exemptions bring tax relief to a considerable number of property owners and voters.

Provisions of Laws

All of the homestead tax exemption laws enacted during the 1930's are still in effect, and as Table I indicates, they now offer exemptions on assessed valuations varying from $500 in Wyoming to $5000 in Florida and Mississippi. In some cases, these exemptions also carry acreage limitations which vary from 40 acres in Iowa to 200 acres in Texas, and in South Dakota the limitation applies to acreage only with no exemption ceiling on property values.

In five states—Alabama, Arkansas, Minnesota, South Dakota, and Texas—the authorized exemptions apply only to the state-levied portion of the general property tax. In other states the exemptions apply to most, if not all, state and local general property tax levies and thus have a considerable effect upon the tax budgets of both the individual taxpayers and the tax-collecting agencies. These exemptions, however, have not always brought complete freedom from

taxation for many of the laws specifically authorize tax levies for the servicing of such state and local indebtedness as existed at the time the exemption laws went into effect. In a few states, Florida for example, the exemption laws have made no mention of tax levies for debt service but the courts have required the continued levying of general property taxes on the entire tax base for this purpose.

On the question of what is a homestead there is little disagreement between the various laws. Generally speaking, within the specified spatial and value limitations, homestead exemptions are granted only to heads of families who both own and reside on the properties upon which they claim exemptions. Usually the laws contain provisions governing the extent to which residential property can be used for commercial and business purposes and still qualify as a homestead. Most of these provisons, however, relate to urban property and none of the states attempt to separate the farm home from the farm business for tax exemption purposes.

In Wyoming the county assessor is charged with the responsibility for securing statements of ownership and homestead exemption right from eligible taxpayers. But in practically all the other states the taxpayer must take the initiative and make a new application each year if he is to get his homestead tax exemption. What checking is done on the validity of the assertions made in these applications is usually left to the local assessors and supervisors.

Provisions are made in some of the laws for homestead tax credit or replacement

TABLE I.—Principal Provisions of Homestead Tax Exemption Laws

State	Authorized Exemption on Farm Homesteads	Units of Government Honoring Exemptions	Tax Levies Not Affected by Exemption	First Year of Exemption
Alabama	$2,000 (not over 160 acres)	State only	.....	1938
Arkansas	$1,000 (can be raised to $2,500)	State only	.....	1938
Florida	$5,000	State and all local units	Special benefit taxes and levies for servicing prior indebtedness	1935
Georgia	$2,000 (can be lowered to $1,250)	State, counties, and school districts	Levies for servicing existing bonding indebtedness	1938
Louisiana	$2,000 (not over 160 acres) (dependent on sufficiency of replacement fund)	State, parishes, and special districts	.....	1935
Minnesota	$4,000	State only	Levies for servicing debts incurred prior to passage	1937
Mississippi	$5,000 or 160 acres	State, counties, road and school districts	Levies for servicing prior indebtedness	1934
Oklahoma	$1,000 (not over 160 acres)	State and all local units	Levies or servicing prior indebtedness	1937
S. Dakota	Total value but not over 160 acres	State only	.....	1937
Texas	$3,000 (not over 200 acres)	State only	.....	1933
Wyoming	$500 (dependent on sufficiency of property exemption fund)	State and all local units	.....	1937
Iowa	$2,500 (not over 40 acres) can be taxed at as much as 25 per cent less than other property depending on sufficiency of homestead credit fund for tax replacement purposes.			1937
Minnesota	$4,000 on rural homesteads assessed for taxing purposes at 20 per cent rather than at the usual 33⅓ per cent of full value.			1934
W. Virginia	Tax levies on rural homesteads and tenant occupied farms limited to 10 mills. Other rural real property is subject to a 15 mill tax limitation.			1933

funds. The assumption here is that the state should directly reimburse the local units of government for the revenues lost through the operation of the tax exemption program. In three states—Iowa, Louisiana, and Wyoming—the amount of the exemption allowed is dependent upon the sufficiency of this replacement fund. During the first few years of the law's operation in Louisiana, for example, tax exemptions were held down to $1000, only half the exemption authorized by law, because of the insufficiency of replacement funds. The homestead tax exemption law in Mississippi makes no provisions for reimbursing the local units, but a state reimbursement plan has been set up by a separate law that operates alongside the exemption law. Even where no provisions for tax replacements exist either in the law or in supplementary legislation, however, the states often have recognized the effect of the exemption program on the local tax units either by making special grants-in-aid to them or by taking over part of the responsibility for financing local roads, schools and relief.

Tax Savings

The volume of tax savings realized under homestead tax exemptions varies from state to state according to the amount of exemption granted and the number of taxing units required to honor the exemptions. In the cases of the five states where exemptions apply only to state levies, tax savings are usually small because the state millage rates are low. (As a matter of fact, seven states, including Florida and South Dakota, have withdrawn entirely from the general property tax field thus leaving the property tax as the exclusive province of the local units of government while a number of others retain state property tax levies of less than one mill.) Applying the maximum value exemptions the tax savings possible to individual taxpayers in these states during recent years would be: Alabama $13.00, Arkansas $8.70, Minnesota $4.75, South Dakota none (no state tax levy), and Texas $10.50.

In the six states where exemptions apply to county, school and other local tax rates, the amount of exemption granted takes on greater importance. Assuming that the maximum exemptions apply to an average tax levy of 30 mills, the taxpayers in these states will enjoy maximum tax savings of $15 in Wyoming, $30 in Oklahoma, $60 in Georgia and Louisiana, and $150 in Florida and Mississippi.

Savings in these amounts, however, are not always enjoyed for the simple reason that many taxpayers do not own enough property to take advantage of the full exemption authorized by law. And even though average farm and homestead values often approach or exceed the exemptions allowed, real property is usually assessed at only a fraction of its true value. Under the self-assessment policy followed in Mississippi, for example, rural property in many areas though supposedly assessed at its full market value often has been assessed at only about a third of its true value.[3] This has made it possible for practically all farms of under 160 acres to qualify for complete exemption under the $5000 limit. Also it helps to explain the Mississippi data which show that the average exemption claimed by rural owners amounted to only $386 under a $1000 exemption in 1934, to $604 under a $2500 exemption in 1936, and to $666 under the $5000 exemption allowed in

[3] Cf., Charles G. Deaton, *Public Finance Aspects of the Unified County Land Use Program, Covington County, Mississippi*, p. 11 (BAE dittoed, Jackson, Miss., 1940); and Raleigh Barlowe, *The Influence of Institutional and Community Factors Upon Land Tenure*, unpublished report prepared for Southwestern Regional Land Tenure Research Project, Fayetteville, Arkansas, 1943.

1938. With the usual tax rates prevailing in the state, these average exemptions brought individual tax savings of between $15 and $20 in 1934 and between $25 and $30 in 1938.

The net effect of these homestead tax exemptions upon local property tax bases has not always been so important as might be expected. As Table II indicates, the exemptions in recent years have accounted for about one-fourth of the real property tax base in Florida and Louisiana and about one-third of this base in Mississippi. In all three states the percentage of the assessed value of real property exempt from taxation has increased considerably since the exemption laws first went into effect. This trend reflects both the increase in the amount of exemption allowed in Louisiana and and Mississippi and the action taken by more and more taxpayers in applying for exemptions. This increase in number of applications is illustrated in Mississippi where 92,450 homes were exempt in 1934; 137,205 in 1936; 149,466 in 1938; 158,331 in 1940; 172,108 in 1942, and 181,639 in 1944. The 1940 exemptions affected about 89 percent of the 178,118 owner-occupied homes reported for the state by the 1940 Census. Of the 99,826 rural owner-occupied homes reported by the Census in 1940, 55,392 were exempt in 1934, 90,484 in 1936, and 97,280 in 1938—the last year for which the breakdown by rural and urban owners is reported.

Even though these exemptions have seldom deprived the average local taxing district of much more than a third of its property tax base,[4] this reduction in assessed valuation often has brought alarming losses in tax revenues. Where these losses have not been made up by state grants derived from replacement taxes the local units of government have had to work out their problems of insufficient revenue by (1) levying higher taxes on nonexempt general property, 2) effecting whatever economies they could, and (3) discontinuing normal public services. Unfortunately, many local units found it necessary to follow

[4] This effect has varied by counties and taxing districts. In Mississippi in 1944, for example, the reduction in tax base varied from 12.4 percent in Tunica County to 63.4 percent in Choctaw County.

TABLE II.—Total Assessed Value of Property Covered by Homestead Tax Exemptions and Proportion Exemption Represents of Total Real Estate Property Tax Base for Selected States:–1935–1945.

Year	Florida		Louisiana		Mississippi	
	Ass'd Value of Exemptions	Percentage of Real Property Tax Base	Ass'd Value of Exemptions	Percentage of Real Property Tax Base	Ass'd Value of Exemptions	Percentage of Real Property Tax Base
	M Dollars	*Percent*	*M Dollars*	*Percent*	*M Dollars*	*Percent*
1935	59,692	14.51	87,571	9.57	47,866**	12.72
1936	69,330	16.97	105,029	11.68	102,066	26.78
1937	83,040	19.39	113,631	12.26	102,066	26.78
1938	94,091	21.37	119,428	12.90	117,389	31.11
1939	106,987	23.96	178,641	19.90	123,739	32.80
1940	117,037	26.42	184,375	21.34	130,288	33.28
1941	449,811*	25.49	189,765	21.76	134,037	33.70
1942	480,760	26.55	198,642	22.66	144,492	34.38
1943	501,289	25.60	211,587	23.65	146,100	34.92
1944	523,449	26.73	227,638	24.07	151,043	35.83
1945	564,279	26.51	248,453	25.27	153,624	36.39

* In 1941 the tax assessors in Florida started assessing real property at approximately 100 percent of true value.
** Value of exemptions granted on the 1934 Mississippi tax levy (collected in 1935). No official figure was released for the exemptions allowed on the 1935 tax levy.
(Data from Reports of the Comptroller of the State of Florida, 1935-45; Louisiana State Tax Commission Reports, 1935-45; and Mississippi State Tax Commission, Service Bulletins 12, 18, 21, 24, 27 and 30.)

this last line of action; and in some cases —Georgia, and West Virginia, for example—the local school districts were among the first to feel the necessity for curtailing their normal functions.[5]

Direct Effect on Owners

Turning now to an analysis of the effects that homestead tax exemptions have on tenure groups, care must be taken to distinguish between the direct and indirect effects of the exemption program. In considering the direct effects separate consideration should be given to the impact that homestead tax exemptions have on present owners and prospective buyers of real property and upon landlords and tenants.

There is little reason to doubt that homestead tax exemptions have brought some very real benefits in the form of tax savings to most owner-operators. Not all owners, however, have profited alike. The greatest gain, in dollars and cents though not necessarily in social values, has been enjoyed by those who own sufficient property that they can receive the maximum exemption. Assuming a $5000 exemption and a 30-mill tax levy, for example, the owner with property valued at $5000 saves $150 in taxes while the owner of property valued at $1000 saves only $30. Owners with assessed values in excess of the maximum exemptions also stand to enjoy the maximum in tax savings. Their favorable position, however, can be lost if much of the tax burden is shifted from exempt to non-exempt property through the use of higher tax levies. Using the above sample and assuming an increase in tax rate to 45 mills once the exemption program has gone into effect, the owner of a $15,000 farm would find the increased tax on his $10,000 of non-exempt valuation sufficient to wipe out his tax savings. The owner of a $20,000 farm under these conditions would find his net property tax actually $75 higher than before the exemption program went into effect.[6]

The possible inequities associated with the application of homestead exemptions to properties of high value have been of little bother to the average homestead owner. As has been suggested above, assessed values usually have been low and the tax savings of the average taxpayer have been small. Actually these savings have averaged between $2 and $10 in those states where the exemptions apply only to state taxes and between $15 and $30 in those states where the exemptions apply to local as well as to state levies. But small as these tax savings might appear now, they seemed mighty significant during the 1930's when family incomes were low and a few dollars often made the difference between tax forfeiture and ownership security. This was particularly true in the low income areas of the deep South where most of the homestead tax exemption laws were enacted.

The claim that homestead tax exemptions would encourage more people to become owners was one of the chief arguments advanced in favor of the exemption idea. There is little in the experience of the last few years, however, that either proves or disproves the validity of this

[5] The Wisconsin homestead exemption law of 1923 was repealed in 1925 largely because "some school districts found that the exemption removed from the tax roll such a large portion of the taxable property that sufficient funds could not be raised school purposes." Cf., O. M. Johnson and B. W. Allin, "The Exemption of Homesteads from Taxation", *Journal of Land & Public Utility Economics*, July 1925, p. 381.

[6] The fact that homestead tax exemptions can lead to an increase rather than a decrease in the property tax load carried by properties with high assessed values might be regarded by some as an argument favoring exemptions. However, the desired results secured here can usually be achieved more directly through the use of other means. For example, if a graduated property tax is the goal, use probably should be made of a tax program more specifically designed for this purpose. Similarly, where the aim is to counter-balance the frequent underassessment of properties of high value, corrective measures should be taken to improve assessment practices.

claim. The Census indicates a marked increase in the number of farm owners during the war years, but such differences as exist between the rates of increase experienced by the various states usually can be explained in terms of the interaction of factors more important than homestead tax exemptions.

In actual practice it is doubtful that the promise of annual tax savings of from $10 to $30 has affected the decisions of very many buyers. To be sure, these savings can be capitalized at 5 percent to values ranging from $200 to $600 and the consideration of this fact has at times tipped the scales in favor of ownership. In general, however, this is only an additional advantage of ownership and the presence or lack of state legislation providing for homestead tax exemption influences the purchasing decisions of only a marginal few. But regardless of whether exemptions have helped to increase the number of farm owners it is safe to say that the exemption program undoubtedly saved some farms and homes from tax forfeiture during the 1930's.[7] Also it is probable that some of the farm capital that otherwise would have gone for taxes was used in paying off mortgage debt or debt service charges or in improving the levels of farm life.

While there is little doubt that owner-occupants of taxable property benefit once a tax exemption program goes into effect, one might ask if these benefits accrue to future owners. This brings up the problem of capitalization of tax savings and gives rise to several definite questions. There is, for example, the question of whether the average property owner gives much attention to the capitalization of income concept. Then too, the right to homestead tax exemptions attaches to persons, not to property, and this factor limits the extent to which the value of the right can be capitalized into higher land values. Also, there is a question as to what proportion of the tax saving is to be capitalized. Can the capitalization apply to all the tax saving or must it be limited to the portion that can be attributed to the land and permanent improvements?

In theory at least, farm land is worth the capitalized value of its average annual income. In actual practice many other factors are involved in the determination of land market prices. But over the long run any increase or decrease in the average annual net income attributable to land should result in an increase or decrease in land values. This being true, it is logical to assume that the average farm owner will regard the tax payments he saves through the operation of homestead tax exemptions as additional net income that can be capitalized into higher land values. This should be especially true in those areas where a large proportion of the farms are suited for single-family operation and where a supply of buyers is always present —in other words, in areas where most of the prospective buyers can qualify for homestead tax exemptions. A perfect case for this capitalization procedure exists in Oklahoma where the state constitution (Article XII-A, paragraph 2) specifies that exemptions once granted

[7] The data for the 1930's on tax forfeiture of farms (cf., B. R. Stauber and M. M. Regan, *The Farm Real Estate Situation, 1933-34*, U.S.D.A. Circular No. 354, Table 14, p. 30; and M. M. Regan, *The Farm Real Estate Situation, 1936-37, 1937-38, and 1938-39*, U.S.D.A. Circular No 548, Table 13, p. 32) suggests that some of the homestead tax exemption laws may have helped to reduce the amount of tax delinquency. In Louisiana and Mississippi the years following the application of the homestead tax exemption program brought a marked decline in the number of farms per 1000 farms going tax delinquent. The Florida, South Dakota, and Wyoming data also show reductions in the number of farms going tax delinquent after the exemption laws went into effect. In the other states the proportion of farms being lost through tax delinquency had already dropped off before the homestead exemptions were granted. Interestingly enough, the proportion of farms suffering forfeiture declined just as soon, if not sooner, in the states without exemption laws that bordered the states granting exemptions as in the homestead tax exemption states.

can be increased but not decreased by the legislature "for a period of not less than twenty years."

Because of the impact of other factors such as rising farm incomes and changes in buying psychology, it is difficult to use mass data on land values in illustrating the effect that capitalization of tax savings can have. Individual case studies, however, indicate that some owners have been quick to associate higher land values with reduced tax rates while others, not understanding the implications of the capitalization process, have been slow in attributing higher property values to tax exempt lands. With the passing of time the prices asked by both groups of owners will approach each other and these prices will in all probability reflect some capitalization of tax savings.

Under the usual market conditions the effects of this capitalization process cannot be measured in precise terms. Theoretically, an owner-occupant selling to a prospective owner-operator should be able to realize on the full value of his exemption privilege. But not all land sold is occupied by its owners and not all buyers plan to live on the farms they purchase. With these different types of buyers and sellers bargaining with each other in the market and with every buyer free to compare and choose between a number of different farms, land prices will tend to seek a level somewhere between the ordinary value the land would have when the possible tax savings are capitalized and when not capitalized. With this bargaining process in operation the presence of homestead tax exemptions is likely to bring an increase in all farm land values regardless of the occupancy status or plans of the sellers and prospective buyers. Where there is a sellers' market and many buyers in a position to benefit from the exemptions, the normal bargaining process is likely to lead to the capitalization of a substantial portion of the possible tax savings into higher land values. Where a buyer's market exists or where most of the buyers cannot realize on the benefits of homestead tax exemptions, the increase in land values attributable to the partial capitalization of tax savings might be small.

Insofar as this is true, the application of tax exemption legislation makes it possible for all owners, non-occupants as well as occupants, to enjoy a "windfall" when they sell their land. Future owners will not share in this special benefit (unless there is a shift from a buyers' to a sellers' market) for the simple reason that they will find it necessary to "buy" most if not all of their possible exemptions and lower tax rates in the form of higher land prices.

Even if all owners selling farms were able to capitalize their tax benefits, it is unreasonable to suppose that all prospective buyers would have to pay the capitalized value of the full tax saving resulting from exemption. The farmers who buy raw land and then make their own improvements and the rural residents who buy lots and build their own homes, for example, cannot be expected to "buy" the future tax freedom they will enjoy on their buildings and improvements at the time they purchase their land. This, together with the fact that buildings and improvements are valued as often in terms of replacement cost as capitalized ability to produce income, limits the extent to which the owner can capitalize his tax savings under homestead exemptions into higher property values.

Direct Effects on Landlords and Tenants

Landlords and tenants seldom if ever benefit to the same extent as owner-operators from homestead tax exemp-

tions. To a limited extent, the exemption laws of a few states have encouraged some tenants to become owners. In Florida, for example, the courts have held that property acquired under small down payment purchase contracts can qualify for homestead tax exemption, and this has encouraged some tenants to exchange their leases for purchase contracts.[8] Despite the incentive that the exemption laws provide for owner-occupancy, however, they usually tend to discriminate against rather than favor landlords and tenants.

As has been pointed out, homestead tax exemptions usually are allowed only on owner-occupied and operated properties. Only in West Virginia is preferential tax treatment given to bonafide tenant-operated as well as owner-operated farms. In the other states, landlords not only fail to benefit from the exemption program but at times also find themselves burdened with the heavier taxes that result when the tax load is shifted from exempt to non-exempt property. This tax burden places the tenant-occupied farm at a definite disadvantage when compared with the tax exempt owner-occupied farm.

This disadvantage is sometimes felt most keenly by the landlord, sometimes by the tenant, depending upon how successful the landlord is in shifting the tax to the tenant. The extent to which the incidence of the tax is borne by the tenant depends on the comparative bargaining positions of the landlord and tenant and upon the reliance placed on the use of variable as against customary rental arrangements. In any case, however, the fact that the tenant at times through his rental-payments is called upon to help his landlord pay taxes while the owner-operator of similar farms enjoy tax exemptions does little to improve the comparative position of the tenant.

In addition to the actual financial effect that the exemption program has on landlords and tenants, tax exemptions can affect the operating decisions made by landlords and prospective landlords and through them affect the opportunities open to tenants. Where the tax saving under exemption seems significant, it may discourage the actual renting out of farms. Owners who might otherwise be ready to retire to live off their rents as landlords will be tempted to continue their farming operations with the help of hired labor. In states such as Mississippi where exemptions are not permitted on farms held for renting out but are allowed on owner-occupied farms of up to 160 acres "together with barns, tenant houses, and other necessary outhouses," the exemption program can favor the operation of farms with wage hands and croppers instead of with tenants. This might have little effect upon total agricultural production, but it does deprive many prospective owners and tenants of an opportunity to use the tenant rung of the agricultural ladder as a stepping stone to ownership.

[8] While discussing the "catastrophic" effect of the homestead exemption program on municipal revenues in Florida, the Florida State Planning Board (*The Need for State Financial Aid to Florida Municipalities*, Dec. 1944, p. 15) observes: "And if legitimate homesteads were not enough, increasing resort has been made in recent years to the 'sales contract' to swell the number of 'legal' homesteads. This flimsy technical dressing up of a mere rental agreement, usually with no honest thought of intended purchase, into a purely specious 'false front' sale probably will become increasingly popular as a means of tax avoidance, . . ."

Under the provisions of the exemption laws in most states the eligible applicant for a homestead exemption must have title to his property. Usually no mention is made of purchase contracts and no provisions are made relative to the equity that the applicant must have in his property. The Mississippi law is more specific on these details and requires the buyer to pay at least 10 percent on a purchase contract before qualifying for tax exemption. Also, exemptions are not allowed on properties upon which the mortgage indebtedness exceeds the fair value of the property. The mortgages must provide for payment of interest and repayment of principal within a reasonable period of time.

Indirect Effects on Tenure Groups

Besides the direct effects that homestead tax exemptions have on tenure groups there are certain indirect effects growing out of the reduction in general property tax revenues. In those cases where no immediate steps have been taken to secure new revenues the exemption program usually has brought a reduction in governmental services, and when this reduction in services has involved local governments and school districts, its implications have been serious. In most cases, however, replacement taxes have soon been levied to make up for this loss in revenue. In these cases the use of homestead tax exemptions has merely resulted in the substitution of new taxes for the old and the impact of the new taxes has sometimes more than cancelled the benefits derived from tax exemption.

The exact effect of the replacement tax on farmers depends on the shifting and incidence of the new tax. Where the replacement revenues come from taxes on gasoline and race track receipts as in Florida or from higher income taxes and liquor taxes as in Louisiana the farmers do not necessarily suffer. Where a general sales tax is used for tax replacement purposes as in Arkansas, Mississippi, West Virginia and a number of other states, however, many of the smaller owners as well as the tenants, croppers and laborers are bound to suffer.

Unfortunately, no study has been made of the impact that regressive replacement taxes such as the sales tax have on tenure groups. However, it is possible to arrive at conclusions relative to the effect that the sales tax has upon tenure conditions if use is made of hypothetical cases based upon actual field data. One of the Mississippi plantations described by Langsford and Thibodeaux can serve very well as the basis for such a hypothetical case.[9] The net property tax of $1500 reported paid by the plantation can be arrived at rather simply through the use of the tax rates levied in a fairly representative taxing district.[10] The particular plantation used in this example has 835 acres of "cultivatable" land and 115 acres of "uncultivatable" land. The land is actually valued at $43,475 but for taxation purposes is assessed at $25,560. The buildings, equipment, and workstock on the plantation are actually valued at $14,845 but are valued for assessment purposes at $5,470. A local tax levy of 57.64 mills is charged. This allows the owner a net saving of $288.30 under his $5,000 homestead tax exemption.

On this plantation, the operator pays out $3,532 for purchased supplies, power, machinery, and repairs. If he pays the Mississippi sales tax of 2 percent on only one-third of this total expenditure, he pays approximately $22.54 in sales taxes on his plantation operations. He makes a net income of $5,420 from the plantation. If he spends approximately 75 percent of this income on taxable items within the state, he will pay an additional $81.30 in sales taxes. This brings his total sales tax payments up to approximately $104 and gives him a net saving on his tax bill of about $184.

This saving by the plantation owner is more than made up for by the impact that the sales tax has upon his sharecroppers

[9] Cf. E. L. Langsford and B. H. Thibodeaux, *Plantation Organization and Operation in the Yazoo-Mississippi Delta Area*, USDA Tech. Bulletin 682, May 1939, tables 36, 37, and 39 pp. 80-84. The first of the seven types of plantation systems discussed is used in this hypothetical example.

[10] The rates levied in a taxing district in Humphreys County are used in this example. Cf., *Mississippi Backwater Areas Survey, Yazoo Segment*, Public Finance Section, Table I, and Appendices I to IV. The average ad valorem tax collected per acre on "cultivatable" lands in this taxing district in 1938 was $1.73 on non-exempted lands and 94c on exempted homesteads. Both the tax rates and assessed valuations in this district are lower than average for Humphreys County but approximate the average for all the Delta counties included in the backwater study.

and laborers. The plantation has 38 sharecroppers, a blacksmith, and a hostler to whom a total of $15,357 are paid out. If 90 percent of this amount is spent on taxable goods, these plantation workers are required to pay $276.43 in sales taxes. This constitutes a new tax of approximately $6.91 on each of the cropper and laborer families working on the plantation.

Similar examples could be outlined for other types of farms in the state. For instance, the hill farmer with a farm assessed for taxing purposes at $400 and exempt from a 30-mill levy would pay more out in sales taxes than he saved in property taxes if his expenditures should exceed $600 a year. All of this adds up to the conclusion that landlords and some owner-operators will benefit from the replacement of the revenues lost under homestead tax exemptions by sales tax receipts while tenants, croppers, laborers, and some of the small owners will lose. It could be argued that landlords pass their tax savings on to their tenants in the form of lower rents or to their laborers in the form of higher wages. However, there is scant reason for believing that this shifting procedure has or will take place in actual practice.

Conclusions

What effects do homestead tax exemptions have on tenure groups? Do they really constitute a farm tenure improvement measure? The answers to these questions are complicated by the differences in impact that the exemption program has on the various tenure groups.

Owner-operators as a group usually profit from homestead tax exemptions because (1) they usually enjoy some reduction in their general property taxes, and (2) they can in many cases capitalize at least part of the value of their tax savings into higher land values. The prospective buyer and operator gains some incentive for ownership under the exemption program but this can be more than cancelled if he has to "buy" the value of his future tax freedom in his purchasing transaction.

The landlord who rents out all his land can at times benefit from the possibilities for homestead tax exemption when he sells his land. But while he keeps it he enjoys no tax exemption benefits and, with the other owners of large holdings, may be called upon to pay higher property taxes if the tax load is shifted from exempt to non-exempt property.

Outside of holding out a slightly greater incentive for ownership, the homestead exemption program offers little but discouragement for tenants, croppers, and laborers. The tenant, for example, stands to lose because: (1) the possibilities for capitalizing tax savings into higher land values can make harder his problem of accumulating the initial outlay of capital he needs for starting as an owner, (2) the exemption program discourages owners from renting out their land and encourages them to use wage hands and croppers rather than tenants, and (3) the use of replacement taxes such as the general sales tax actually shifts part of the tax burden originally carried by the owners onto the tenant and thus deprives him of part of his possible margin of savings and investment capital.

These being the effects of homestead tax exemptions, it seems obvious that an exemption program cannot be offered in good faith as a farm tenure improvement measure. The advantages that accrue to owners at times such as during the depression of the 1930's when thousands of farms went tax delinquent may make the homestead exemption program seem worthwhile and desirable as an ownership retention device. But the best interests of the other tenure groups usually are not favored by homestead tax exemptions.

The Case For National Forest Roads

By NICHOLAS HELBURN*

THE National Forests, particularly those of the Northwest and the Pacific Coast, are desperately short of roads. This lack of roads interferes with proper management, effectively prevents optimum use of most of the forest resources.

The eastern forests were acquired long after their first exploitation and after settlement in the surrounding areas had been established. Adequate roads are already there for the most part. Much the same applies to the Ozark and Lake States forests, though more roads are needed than now exist. In the southern Rocky Mountain region, roads are comparatively easy to build. The Northern Rockies and the whole Pacific Coast, where forests were acquired in a virgin condition and where road construction is a significant part of logging costs (10 to 15%), need roads immediately.

In the interior Northwest present market conditions in the valuable species[1] are so different from those of the "inferior" species that this discussion is limited to the valuable species for the most part. Nevertheless every indication points to an increase in the demand for these other species, and in that event the same arguments will hold, the same road system will be needed.

Just as a farmer cannot manage a farm without gates in his fences, a forest cannot be managed without roads. Roads are part of the basic equipment of forestry. Yet, because few people live in forested regions, we have neglected forest roads, thinking mobility of people more important than mobility of goods. This is probably true, and it could hardly be considered a proper function of government to build and maintain roads in a private forest. But for the government not to make its own forest accessible is like a storekeeper leaving his goods locked in the back room. Everyone would agree that the exploitation of private timber in the past has been extravagantly wasteful by present standards, but that is no excuse for the under-utilization of public timber at present. One waste cannot be balanced by another.

The federal government, through the Forest Service, owns almost half (47.5%), 41,531,000 acres, of the commercial timberland of California and the Columbia Basin. This is unreserved and of high enough site quality to grow timber commercially by present standards. This acreage, then, can be considered the federally-owned, tree-farm area of California and the Columbia Basin. If we are to harvest the timber from this land, granted we do not learn to do so with helicopters, the land must sooner or later be served by a road network. The point which this paper tries to make is that this network should be built sooner rather than later.

The timber on these sites is in all stages of development from young seedlings to mature and decadent stands. Likewise, all types of locations are represented, from low land close to farms and towns, to high, steep land on the margin of accessibility. An almost infinite variety of road costs and requirements are in-

* Assistant Professor of Geography & Geology, Montana State College.

[1] The "valuable" species in this region are western white pine, ponderosa pine and western red cedar. This discussion will exclude western white pine, however, because of the inability of this species to reproduce itself under a forest canopy. It is a "fire species" and as yet cannot be grown except in the bright sunlight of a cleared area. If a shade-tolerant variety of this species could be developed, it too could be managed by selective cutting and the volume cut could be increased.

volved. No attempt at detailed planning is made here. The Forest Service has done a great share of the planning it considers necessary, each road project being analyzed for costs and justification. But the Forest Service has by no means built all the forest roads which it considers justified.

Roads on privately-owned land are usually paid for entirely by the virgin timber crop. Because of this roads are built to minimum standards and the operator is pressed to exploit the timber so thoroughly as to preclude another crop from that land in anything like a reasonable length of time. Roads in public forests are permanent and multiple purpose. Recreation, fire protection, timber management, as well as timber harvest, both present and future, all benefit from a road. They can all pay part of the cost.

The Forest Service in Region One, Montana, North Idaho and Northeastern Washington, has an investment in roads valued at $21,487,000, about half of which have no value as utilization roads. Preliminary plans indicate the need for another 70 million dollars for new construction and improvement, 60% of which would be spent for roads with timber utilization value. At the present rate of construction this would take 50 to 75 years. Other regions of the Mountain and Pacific Coast states face the same prospect. The reason for this time lag is legislative: the limitation of annual appropriations. But each year values which could be realized by these roads are being lost. This is an avoidable and inexcusable loss.

Mature and Over-mature Timber

The principal loss takes place in mature and over-mature stands, virgin forests where mortality balances or exceeds growth. Nature is at best maintaining itself. At present large areas of such timber lie stagnant while other areas are being cut so heavily that subsequent growth in residual stands is very slow. If roads were available, present cutting methods could be modified so that a light cut could be made over a large area each year. Then less timber would be lost through mortality and growth would be greater in larger residual stands. Consequently it would be possible to take more timber from the forests without endangering their future productivity.

Let us examine the situation in some detail. A mature stand is composed of a large number of trees, many of which are well grown and a few of which are ready to die. It is generally agreed that a silviculturalist, if he did not have to worry about economics, could derive the maximum commercial timber by taking from the ponderosa pine forest each year those trees which have completed their period of rapid volume growth. This would be about three per cent of the volume of the stand. (Volume refers to the number of board feet of lumber which the stand would produce if cut.) Likewise it is generally conceded that the traditional practice on private timber land of cutting everything at once (clearcutting) is, in the long run, deriving the minimum timber from the land. For example, in the interior Northwest a stand is not mature until it is at least 120 years old. By clearcutting an operator would be able to get 100% of the original stand every 120 years. The silviculturalist, on the other hand, combing the area every year would get 360% of the original stand in the same period.

While the one-year cutting cycle of the silviculturalist is economically unfeasible, economic factors do not require the wasteful 120-year cutting cycle of the private operator. A compromise is possible.

Two of the major factors contributing to the urgency of rapid conversion of standing timber to saw logs by the private operators are annual real estate taxes and road costs.[2] Taxes are levied on the timber as well as on the land so that the tax bill on private timber land is much greater while the timber is standing than after it is removed. Roads are built for the single harvest only and then are abandoned. The whole cost must be borne by the single harvest and thus the tendency is to make the largest possible harvest in order to spread the road (and other) costs over as much gross as possible.

On National Forest land these two factors apply quite differently. In lieu of taxes, the Forest Service gives the local governments 25% of its gross income from the sale of timber and forest products. This is the counterpart of a severance tax rather than the customary real estate tax and has no tendency to hurry the cutting of timber. In line with its commitment to sustained yield forestry, the Forest Service is committed to build permanent roads. Roads are carefully planned to serve both present and future use and to serve protective, recreational, and administrative, as well as timber harvest purposes.

The modification of these two factors, taxes and road costs, allows the Forest Service to use a cutting cycle somewhere between the two extremes mentioned above. The question is, where? How long should the cutting cycle be?

Present Forest Services Practice

In the interior Northwest ponderosa pine stands—the cutting cycle most commonly used now—is 45 years. Seventy per cent (by volume) of the stand is cut, leaving 30% as residual or reserve stand. This percentage is taken from 1/45th of the area each year so that by the end of the cutting cycle the whole area will have been covered. The theory is that the trees in this reserve stand will double their volume in 45 years and then they can be cut. From the second cut on, the theory is not so clear.[3] The best guess is that a third cutting could be made 120 years after the first when seedlings at the beginning would have had time to grow into mature trees.

Just how this 70% cut with a 45-year cutting cycle was established is really a problem in administrative history. The Forest Service when it took over the National Forests in 1905 inherited the tradition of private forestry in the United States. This was opposed by its conservation philosophy and its scientific interest. There has been a constant trend away from clearcutting, toward selective cutting and sustained yield. The present cutting cycle is merely the present stage in that trend.

The most important factor in setting the cutting cycle at 45 to 60 years and a 70% cut is the lack of roads, although there has also been a constant pressure from buyers of Forest Service timber for as large a cut as possible. At the present rate of road construction it will take 50

[2] Kenneth P. Davis, *Economic Management of Western White Pine Forests*, Tech. Bull. No., 830, U.S.D.A. Washington: 1942, pp. 62f.

[3] To illustrate this undecided point, the *Management Plan for the Bitterroot Working Circle*, (USFS mimeograph, Stevensville, Montana, 1941, pp. 15f) includes the following statement: "A first cutting cycle of 45 years is set up more or less arbitrarily on the basis that, with the residual stand left, it will take that long for the growth to produce a merchantable cut. The length of the second and third cycles may be altered by conditions as they exist at the end of the first period. Hence no attempt is made at this time to establish additional cutting cycles or length of crop rotation." (W. H. Meyer, *Growth Rates in Selectively Cut Ponderosa Pine Forests of the Pacific Northwest*, U.S.D.A. Tech. Bul. 407, p. 5.) Meyer, in describing Forest Service cutting methods in 1931 states that "a system of partial cutting is employed that leaves from 15% to 30% of the merchantable volume for accelerated increment and insurance of seed supply and as the basis for a later cut after an interval of 40 to 75 years." He does not mention following cuttings except to say that if continued in the same way they will eliminate older age classes of trees and will soon produce an even, aged stand (as against the ecologically balanced forest composed of trees with a wide age range).

to 75 years to complete the road system. Therefore it is impossible to "cut around" any faster than is being done at present and, consequently, a light cut would be of no value. The only other method of road construction is to have the private operator build the roads and to pay him for it by reducing the price of the timber proportionately. But this requires a heavy cut—a large percentage of the stand—in order to give the operator his money's worth. Thus the lack of roads requires either a long cutting cycle which makes a light cut pointless or it requires a heavy cut which makes a long cutting cycle imperative in order to allow time for regrowth.

Fifteen Year Cutting Cycle

If annual appropriations could be increased so that roads could be built faster (say to complete the system in fifteen years) then the area could be covered more rapidly and it would be possible to take advantage of the greater growth which takes place from a larger reserve stand and the more rapid growth which takes place during the first two decades after each cutting. Table I compares the productivity of the 15-year and the 45-year cycles.

By more rapid coverage of the area with a light cut of 30%, the allowable cut could be increased 85%. This would be significant in the current lumber shortage and would also go a long way toward sustaining expanded mill capacities and communities, built up on the liquidation of private timber and now threatened with drastic contraction.

Some may question whether it is possible for the operator to make a profit from so light a cut as 30% of the stand. It is believed to be possible by those who have studied the problem in the greatest detail. The timber management specialists of the Forest Service believe it to be quite practical over most of the stands in the interior Northwest.[4]

Some may ask why the proposed cutting cycle is set at 15 years. This period is chosen primarily because of a peculiarity in the growth of forests: In the normal growth of a forest, competition develops between neighboring trees, competition for sun at the crown and for water and nutrients at the roots. This competition slows the growth of all trees. After each selective cutting those trees which are left are "released" and make more rapid growth until the competition develops again. Just how soon this becomes significant is still a matter of some controversy, but recent studies point to 15 years as the critical point. Walter H.

TABLE I.—PERCENTAGE OF ORIGINAL VOLUME WHICH MAY BE CUT UNDER 15- AND 45-YEAR CUTTING CYCLES IN PONDEROSA PINE STANDS IN THE INTERIOR NORTHWEST OVER A 120-YEAR PERIOD.

Years from Beginning of Cycle	Percent of Original Volume	
	15-Year Cycle	45-Year Cycle
0	–	–
15	30	70
30	30	–
45	30	–
60	30	60
75	30	–
90	30	–
105	30	–
120	30	–
TOTAL	240	130

[4] Statement to the author by A. G. Lindh, Assistant Regional Forester, Region I.

Meyer states: "The growth rate reaches a maximum in the second decade after cutting and then gradually tapers off, approaching the rates previous to release."[5] Pearson has shown that growth decreases and mortality increases after the first decade after cutting and becomes serious toward the end of the second decade.[6] If these things are true; that a 30% cut is practical as the Forest Service believes, and that 15 years includes the period of maximum growth and minimum mortality after selective cutting, then a 15-year cutting cycle will give the maximum practical yield from the forest.

Road Costs in the 15-year Cutting Cycle

But the question of roads remains. Is it possible to supply the roads for a 15-year cutting cycle at not too great a cost? This is best shown by a comparison of costs in the 15-year cycle with the present road building program which is the other alternative. A theoretical example will best show this comparison.

On a given working circle, we can assume that the actual construction cost will be the same regardless of the time involved. Interest on investment, the timing and the amount of the return (stumpage) and maintenance costs will vary. There is a real question as to whether it is proper to charge interest on government investments which are maintained over a long period of time, but we shall be conservative and charge the government 2% compound interest. In the 45-year cutting cycle we assume that 1/45th of the roads are built each year and that 70% of the timber from 1/45th of the areas is cut over each year. In the 15-year cutting cycle, we assume that 1/15th of the roads are built each year for the first 15 years and then no more roads need be built, while 30% of the timber is cut from 1/15th of the area each year for 45 years. Ignoring maintenance costs for the moment but including interest, the ratio between the share of the stumpage value which must be paid for the roads in the 45- and 15-year cycles is 1 to 1.05, an insignificant difference. This ratio is derived by comparing the present values of cost and yield annuities over 45 years.

Let V equal Value of the whole mature stand

Let C equal Construction cost of the road system

Let S_1 equal necessary percentage of the stumpage value required in the 15-year cycle

Let S_2 equal necessary percentage of the stumpage value required in the 45-year cycle

Let $a_{\overline{n}|i}$ equal Present value of annuity over n years at i rate of interest.

For the 15-year cycle:

$$\frac{C}{15} \cdot a_{\overline{15}|.02} = \frac{0.3V}{15} \cdot S_1 \cdot a_{\overline{45}|.02}$$

For the 45-year cycle:

$$\frac{C}{45} \cdot a_{\overline{45}|.02} = \frac{0.7V}{45} \cdot S_2 \cdot a_{\overline{45}|.02}$$

then,

$$S_1 = \frac{a_{\overline{15}|.02}}{a_{\overline{45}|.02}} \cdot \frac{C}{V} \cdot \frac{1}{0.3}$$

and,

$$S_2 = \frac{C}{V} \cdot \frac{1}{0.7}$$

Therefore:

$$\frac{S_1}{S_2} = \frac{\frac{a_{\overline{15}|.02}}{a_{\overline{45}|.02}} \cdot \frac{1}{0.3}}{\frac{1}{0.7}} = \frac{a_{\overline{15}|.02}}{a_{\overline{45}|.02}} \cdot \frac{0.7}{0.3} =$$

$$\frac{0.437 \times 0.7}{0.3} = \frac{1.05}{1}$$

[5] Meyer, *op. cit.*

[6] G. A. Pearson, "Cutting Cycles in Ponderosa Pine," *Journal of Forestry*, August 1944.

Under the assumptions made above, the share of the stumpage value which must be used to pay for roads, including interest, is only 5% greater with the 15-year cycle than in the 45-year cycle when both are paid off at the end of 45 years. Thus, for instance, if 20% of the stumpage price were to go to roads in the 45-year cycle, only 21% would be needed in the 15-year cycle.

An equally satisfactory comparison of road costs and returns is calculated over 120 years, the full growth period of the forest. In such a comparison, the 15 year road-building program is cheaper. The same assumptions are used as were used in the previous example except in the duration of the comparison. In this case, the full period as shown in Table I is used instead of merely 45 years. The ratio of the share of the stumpage value required to pay for roads in the 45-year cutting cycle to that of the 15-year cycle is 1 to 0.893 when compared over the longer period of time. The 15-year cycle is more than 10% cheaper. That is, if 20% of the stumpage price were to go for roads in the 45-year cycle, less than 18% would be needed in the 15-year cycle.

How true or typical are these assumptions? Cutting is seldom perfectly even throughout the cutting cycle, but the variations balance each other and there is no more typical case than the one used. Likewise roads are not built in even amounts each year. The variation usually comes in the need for a road or an improvement from the usable highway to the working circle before operations can begin, this road being used throughout the cutting cycle. Interest on this initial cost must be paid throughout the period of payment in either case. Obviously the 15-year cutting cycle with the larger total cut would be better able to pay this charge. In most cases this is a modification of minor importance.

$$\frac{C}{15} \cdot a_{\overline{15}|.02} = \frac{0.3V}{15} \cdot S_1 \cdot a_{\overline{120}|.02}$$

$$\frac{C}{45} \cdot a_{\overline{45}|.02} = \frac{0.7V}{45} \cdot S_2 \cdot a_{\overline{45}|.02} + \frac{0.6V}{45} \cdot S_2 \cdot \left(a_{\overline{90}|.02} - a_{\overline{45}|.02}\right)$$

Then,

$$S_1 = \frac{a_{\overline{15}|.02}}{a_{\overline{120}|.02}} \cdot \frac{C}{V} \cdot \frac{1}{0.3}$$

and,

$$S_2 = \frac{C}{V} \cdot \frac{a_{\overline{45}|.02}}{(0.7)\left(a_{\overline{45}|.02}\right) + (0.6)\left(a_{\overline{90}|.02} - a_{\overline{45}|.02}\right)}$$

Therefore:

$$\frac{S_1}{S_2} = \frac{\dfrac{a_{\overline{15}|.02}}{a_{\overline{120}|.02}} \cdot \dfrac{1}{0.3}}{\dfrac{a_{\overline{45}|.02}}{0.7\,(a_{\overline{45}|.02}) + 0.6\,(a_{\overline{90}|.02} - a_{\overline{45}|.02})}} = \frac{\dfrac{12.85}{(45.365)\,(0.3)}}{\dfrac{29.49}{(0.7)(29.49) + (0.6)(41.59 - 29.49)}} = \frac{0.893}{1}$$

Some might question whether the actual construction cost will be the same in either case. This is only true where both sets of roads are designed to be permanent. There is a tendency with a cutting cycle as long as 45 years to call the roads permanent but actually to let down standards. It is being discouraged as far as possible and is likely to disappear soon since it is contrary to Forest Service policy which demands permanent roads for sustained yield.

Maintenance charges remain as a variable which must be considered. They apply to both cycles, of course, but not quite equally. At the end of the 45-year cycle the road system has been in existence an average of 22½ years. At the end of three 15-year cycles it has been in existence an average of 37½ years. This difference might be paid by a larger share of the stumpage, but just as maintenance costs are higher over the whole period because the roads have been in existence longer, so the road has been available for other purposes: protective and recreational, for a longer period.

In addition, it is available for interim harvesting of minor crops. Here the 15-year cycle has the advantage of time, but more important, it has a better resource for interim cuttings. A 70% cut leaves little except seed trees on the area. A 30% cut leaves a growing forest from which there are valuable products which may be taken at frequent intervals. These interim cuttings can help pay the maintenance costs. Both the harvesting of minor products and the protective and recreational uses of the roads will be discussed at greater length below.

One other fact needs mentioning. Recently road engineers have developed simple techniques of "putting a road to bed" for 5 to 10 years which reduce maintenance costs to a very small amount where the road is used only periodically.

To sum up, in the long run it will cost no more to build the National Forest road system during the next 15 years than it would to continue under the present program. The financial costs and returns balance each other out. But there are additional, less direct returns and advantages in the 15-year road program.

Less Direct Benefits

Perhaps the greatest of these advantages is the increased timber produced. The nation's need for it is obvious enough. With the further exhaustion of private stumpage the need will be even greater. Its value in sustaining some of the mills now or soon without timber is less direct or obvious, but is also important and has many ramifications. Many communities built on the clearcutting of private timber face extinction unless the allowable cut of the National Forests can be increased. The only method of increasing the cut from the National Forests without reducing their future productivity is to shorten the cutting cycle, which requires the more rapid building of roads.

The lack of roads not only increases the intensity of cut while other areas lie stagnant and decreases the allowable cut in some parts of the region it also tends to concentrate the small cutting and milling operations around those roads which are being built. Several small operators who would otherwise work in different parts of an area are forced to operate over one road. The cutting is much faster than the forest tributary to this one road can support. Consequently the operations are not only concentrated but also temporary. The social stability of the community suffers seriously. At present there might be 5 small mills operating for 5 years and then moving on, leaving their erstwhile community a ghost town. If more roads were being

built, there could be the same number of mills or more, each operating indefinitely at its own location.

Still another problem exists in the current road program. A large share of Forest Service stumpage, sold in large blocks, is sold before the roads are built. The buyer contracts to build his own roads and the Forest Service reduces the price of the stumpage proportionately. This policy gives a great advantage to the large well-financed companies who alone are in a position to make so large an investment. Although it is possible for the Forest Service to specify the type, quality and location of roads which the purchaser shall build, there is a strong tendency to compromise the long-run view of the Forest Service with the short-run view of the purchaser. In addition, there are numerous cases where the purchaser of the principal timber crop will build the road, but where there are secondary crops which would normally be sold to other purchasers. It has not yet been securely established whether the Forest Service can require that the roads be open to all traffic during the life of the sale so that these secondary crops can be harvested.

For all these reasons it is proposed that the Forest Service build roads into all its mature commercial timber as soon as possible.

Immature Timber

Even in immature stands there is a case for roads. Here again there is valuable growth in the forest which if left will rot and if removed will permit the remainder to grow more rapidly. More seedlings start to grow than can possibly survive in the mature stand. In the natural process a few trees are being forced out of the competition all the time. Nature has no use for these trees after they have been given a chance and found lacking. But man has. To make use of them he needs roads. Further, by man's standards of tree quality, the natural process is not particularly efficient. Many trees that make poor quality lumber manage to get through the pole stage and compete in almost mature stands. In the process of salvaging fuel, posts, poles, pulp and even lumber from trees which would otherwise die and rot, man can bring about a more efficient selection.

Another inefficiency in the natural process occurs because the competition is too even. Too keen competition will retard the growth even of those trees which finally succeed in achieving dominance. This too could be prevented if roads were available for "pre-harvest" cutting.

Contrary to popular opinion, in many parts of the Northwest there is no surfeit of minor forest products. Farmers in western Montana pay high prices for imported posts because nearby forests which need thinning have no roads. Fuel wood is trucked long distances, or coal is substituted for wood because farmers and residents of small towns have cleaned the areas along the few existing roads in nearby forests. Further, the coming of pulp mills to north Idaho and Montana, being planned by several groups, will provide this area with a market for species and sizes hitherto considered worthless.

The question of poles, though it still applies to immature stands, is somewhat different. Some species are more valuable in their immature form than when they are full grown. In the Northwest this applies to western red cedar and temporarily, at least, to lodgepole pine. The cedar seldom grows in a pure stand. The poles must be harvested usually before the other timber is ready. On the Clearwater National Forest in Idaho, for instance, there are approximately 2½ million cedars of pole size. Their present

stumpage value, if they were accessible, would be about 3¼ million dollars.

Any poles not accessible to the basic pre-harvest road system would probably be balanced by the conservative estimate of the poles in the survey. With present roadbuilding trends, however, these cedars will be over-ripe for poles before they are accessible. As sawtimber, their value will be approximately half a million dollars. Because of the delay, the National Forest (the public) will lose 3¼ million dollars. This alone is enough to pay for 37% of the projected road system in that forest. Excluding those roads with no timber harvest value whatever, it would pay for 43%.

In summary, roads are needed in immature stands in order to salvage timber which loses out in the competition; and in order to improve the selection and speed of growth of the principal crop; and also in order to salvage special timber crops when they mature rather than merely to take what special products happen to exist after the principal harvest.

These reasons are not put forth to try to prove that roads are justified at present in large, wholly immature stands. But they do show that where mature and immature stands are intermingled, as they almost always are, the immature stands can help to justify the road system.

To some these reasons will sound reminiscent of the intensive forestry practiced in Europe. They will say that the demand for land is not so high, nor is the price of timber, and that many of our National Forest areas do not have the productive capacity to warrant the expenditure of so much capital and labor.

These criticisms are only partly right. First, the practices outlined above—though they are more intensive than most forestry practiced in the United States—really do not approach the intensity of European forestry. Second, the demand for land, particularly forest land, while not very high, has been increasing. The war has speeded this increase enormously. As long as private logging practices continue to exhaust what should be a renewable resource, the demand for currently-stocked forest land will continue to increase. Annual real estate taxes have so increased the cost of holding private timber that National Forest timber has been neglected. Now, however, most of the private stumpage has been cut. Each mill's security is threatened and the value of stumpage has jumped. In this market the supply of Forest Service stumpage is significant. The demand for timber land is already high enough to support more intensive forestry than has been practiced; witness the first stirrings of the sustained yield philosophy among the large lumber companies. Third, the price of timber has been artificially low. The full social cost of wood warrants more intensive forestry. Finally, all of the poorest sites have been excluded from this discussion already by the Forest Survey classification of land as commercial and non-commercial according to the site quality. That classification was made some time ago. Since then prices have gone up more rapidly than costs. The line of demarcation may be high or low, but in either case there is a large area to which this discussion applies.

A complete system of roads would enable the public to secure real values in timber from decadent, mature and reproducing stands which cannot now be obtained. A constant loss of timber products will continue to take place until such roads are built.

Protection

There are still other advantages in the protection field. A number of roads have been built into isolated areas solely for

fire protection. As a rule these are too narrow, steep and sharply curved to be useful for logging. If the complete road system were built now any further duplication would be prevented. Further, the complete road system would provide much better protection than now exists. Fire protection can pay a fraction of the cost of the road, although that fraction will be smaller than had been expected until this time. It seems likely that helicopters will be used to take both men and supplies rapidly to the scene of the fire, in large part replacing the use of trucks and roads. Also to be faced are the threats of insect and rodent damage, and tree disease. At present, expensive procedures involving large groups of men are used to protect valuable and inaccessible timber. This protection would be much easier if the areas could be reached by road. Even better, the cutting and thinning schedules could be altered so that most of the threatened (and often ripe) timber could be cut instead of protected.

Finally, the recreational value of this road system would be significant. No suggestion is made that wilderness or primitive areas be spoiled, but many sites which cannot now pay the whole cost of a road can pay part. Practically every road will in itself be a recreational resource. By so expanding the recreational resources, the intensity of use will be decreased and values may be preserved.[7]

[7] In parts of the National Parks, use has been so heavy as to destroy some of the recreational value of the sites.

Summary

The demand for stumpage in the Northwest is increasing with exhaustion of privately-owned virgin timber. The Forest Service has large quantities of timber but is committed to sustained yield cutting. The cut permitted under this policy could be materially increased if sufficient roads could be built to permit a shorter cutting cycle. These roads could be built in 15 years. This would involve a greater immediate expenditure than the present program but, due to the increased returns which would be obtained, the final cost per thousand board feet would be no greater than under the present inadequate program. This would eliminate most of the loss of productivity, now dissipated through slow growth, mortality of old trees, and thin residual stands. The complete road system would further permit a more economical and stable pattern of resource use, industrial and community location. It would help equalize the competition between large and small operators. It would provide better protection of the forest from fire, insects, rodents, and disease. It would make the forests a much greater recreational resource.

But the principal thesis remains that much more timber could be cut from the National Forests, at no greater cost to the public and without damaging future supply, by a shortening of cutting cycles and by a much accelerated road building program.

Tax Equivalents versus Taxes of Municipal and Private Utilities in Minnesota

By ARTHUR M. BORAK*

Introduction

THE relationship of public operations of utilities to public finance, which is involved in any consideration of the relative merits of public and private ownership of utilities, continues to be a matter of widespread interest as it was during the preceding decade of the thirties. Furthermore, the increasing extent of tax-exempt property, activities, and incomes is becoming a subject of increasing attention. Therefore, it seems that any discussion involving the extent and behavior of tax-exempt property and operations will be of current importance and interest. This situation has motivated the author to make a continuation of a study made seven years ago which, in turn, was a continuation of a study made five years prior to that one, both of which were published in this *Journal*.[1] The study pertains to electricity. Money payments or transfers from receipts and free services contributed by municipally-owned electric plants are compared with taxes paid by private electric utilities. The data have been brought down to date, and not only a larger number but a larger proportion of publicly-owned plants have been included in this study than in the previous one. The availability of more complete information on the operations of publicly-owned electric plants as well as improvements in the accounting practices of some municipalities have made possible improvements and refinements in the data, making, in turn, for greater accuracy than before. Their development through the last half of the decade of the thirties contributed to this improvement in the previous study extending through 1939 over the first study extending through 1934. Electric rates, municipal tax and special assessment levies, and municipal debts in communities served by publicly-owned electric plants and in those served by private electric utilities also are examined again. In this article conformity as far as possible with previous presentations is observed in order to facilitate comparisons.

The treatment which follows is intended to be as objective as possible, and devoid of sentiment or other prejudices for either public or private ownership and operation. The purpose is merely to clear the atmosphere surrounding controversial and much discussed matters concerning which basic facts, or attempts to get them, continue to be conspicious by their absence.

Of the 755 incorporated cities and villages in Minnesota, 63, with populations aggregating 230,326, generate and distribute electricity (in September 1946, one community which sold its system was replaced by another which purchased the system serving it) and 80, with populations totalling 132,830, distribute at retail electricity purchased at wholesale from other utilities. Besides, three incorporated communities with a total population of 600 are served by distribution systems owned by a municipally-

* Associate Professor of Economics, University of Minnesota.

[1] Arthur Borak, "Tax Equivalents of Municipal Electric Utilities in Minnesota", *Journal of Land & Public Utility Economics*, February 1941, pp. 59-70; and "Public Contributions of Municipally Owned Electric Utilities Compared with Taxes of Private Electric Utilities in Minnesota," *Journal of Land & Public Utility Economics*, May 1937, pp. 116-129.

owned generating plant in a near-by city (one of the above 63) in one case and by a municipally-owned distribution system (one of the above 80) in a near-by city—in the other two cases.[2] Of the 80 with municipally-owned distribution systems 55 purchase current from private utilities, 12 from publicly-owned generating plants in near-by communities and 13 from REA (Rural Electrification Administration) cooperative power associations. Hence, electric enterprise in most of this group of cities and villages is a hybrid of public and private ownership and operation. At the end of the period covered by the previous study (end of the year 1939) 58 cities and villages generated and distributed electricity and 76 distributed current purchased elsewhere. At the end of the period covered by the first study (end of the year 1934) 47 communities were generating and distributing current and 76 were distributing current purchased elsewhere. Prior to that there was a decline in the number of municipalities generating electricity from a high of 106 in 1914.[3] Of the remaining 609 incorporated cities and villages, 578 are served directly or at retail by private companies or corporations and 25 are so served by REA cooperative power associations. In six communities the type of service, if any, is unknown.[4]

Two developments since the early 1930's are worthy of mention here. The availability of PWA grants from 1934 into the early 1940's stimulated interest in municipal ownership and operation of electric facilities; although it is interesting to note that a PWA grant was used by only one municipality to construct a new generating plant where public ownership of such facilities did not exist previously. However, such grants were used by 10 other municipalities having generating plants to improve or extend their systems. These 11 communities received an aggregate of $565,286 in PWA grants for electric purposes.[5] Since the establishment of the Rural Electric Administration in 1935, rural cooperative power associations with their farm lines have sprung up all over the state on the basis of long-term loans from the federal government at low interest cost for transmission equipment, and loans from the same source at low interest cost to the farmer members of these associations for electrical farm devices. New transmission lines to farms were built and in a few cases farm lines of private power companies and municipalities were taken over. Since 1939 these REA distribution cooperative power associations, besides serving directly their member farmers, have come to serve directly or at retail the people in 25 incorporated urban communities[6] as well as to sell current at wholesale to 13 such communities with municipally-owned distribution systems.[7] These distribution cooperatives (48 in number at this writing) purchase current at wholesale from private companies, municipally-owned generating plants, and REA generating cooperative power associations. Incidentally, the five REA generating systems, which have also been established on the basis of long-term loans from the federal government at low interest cost, serve at wholesale their member REA distribution cooperatives (some of the 48) and one of them serves

[2] Population figures used in this study are as of 1940.

[3] North Central Electric Association, Minneapolis, *The Local Nature of Electric Service*, (a pamphlet issued in 1933).

[4] All are very small communities with the largest having a population of 366. This information concerning the extent of the various types of ownership was compiled from data supplied by the Minnesota Department of Taxation and correspondence.

[5] C. N. Phillips, *Location and Scope of Federal Investment in the Electric Business* (a bulletin issued by Ebasco Services, Inc. New York) August 1944.

[6] All are small places with the largest having a population of 630 and 14 having populations of less than 200 in each case.

[7] One of these places has a population of 1,985 and the others have populations of less than 1,000 with seven below 500 in each case.

directly a group of farmers as well. They do not have arrangements with municipalities except exchange power hookups or standby agreements with a few municipally-owned systems.

All REA cooperative power associations are exempt from federal income taxation. Furthermore, the rural transmission lines serving farms are exempt from Minnesota property taxation and the income, if any, from such business is exempt from the state income tax. However, these cooperatives must pay the state a small tax of $10 per 100 rural or farm members served directly. This is the only tax paid by these cooperatives on their rural or farm distribution operations (the bulk of their operations). It is very much lower than Minnesota property taxation on the rural transmission lines of private companies, let alone the state and federal income taxes on the income of private companies from serving the farmer. Incidentally, the REA cooperatives are subject to Minnesota property taxation on their generating facilities in urban or rural areas, and on transmission facilities serving urban customers and also are subject to the state income tax on income derived from serving urban customers. By way of comparative taxation, the municipally-owned electric systems are legally exempt from all federal and Minnesota taxes. On the other hand, the private companies are subject to federal taxes and Minnesota state and local taxes, including state and local property tax levies.

Transfers and Free Services versus Taxes

While municipally-owned utilities do not pay taxes in Minnesota, they sometimes make contributions to their municipalities in the form of money transfers from current receipts or reserves and free services. The comparative size of these contributions and the taxes that would be paid to cities and other political units if the utilities were privately-owned has been and continues to be a great controversial matter. Data compiled for Minnesota, which are presented in Tables I, II, and III below, shed some light on this problem.

In these tables the contributions of money transfers and free services to the municipality by electric utilities in communities with municipally-owned generating plants are compared with both total (federal, state, and local) taxes and state and local taxes paid by private companies in the state. The communities which own their electric distribution systems through which they sell at retail current purchased at wholesale are omitted from this study. As pointed out previously, most of these communities represent neither public ownership nor private ownership, but a hybrid of the two. The contributions and taxes are reduced to ratios or percentages of gross revenue to permit a comparison of the two groups over the 25-year period covered. An effort was made to obtain the necessary data for as many municipally-owned generating plants as possible. The data pertain to 54 of the 63 publicly-owned generating plants in the state at the close of 1946 and to several large private electric companies serving most of the communities in the state which rely on private companies for their current. The communities in both groups are spread throughout the state. The data in Table I pertain to electricity except for eight municipally-owned generating plants where amounts for gross revenue include water revenue, in six cases, steam heating revenue, and in one case gas revenue as well. In these cases identification of the sources of money transfers as between electric and other utility revenues was impossible.

In Table I the aggregate amounts of gross revenue for each year are for the total number of communities. The total number includes a somewhat smaller number for each year where contributions of one kind or another have been made; the others made no contributions. The aggregate amounts of these contributions for each year appear in the fifth column. They represent the sum of the money transfers, exclusive of loans not written off, and the money value of free services. The money transfers are money contributions to the

TABLE I—Electric Utility Revenues Transferred to Other Municipal Funds and the Value of Free Services to Municipalities in Communities Served by Municipally-owned Generating Plants in Minnesota*

Year (1)	Number of Communities (2)	Total Electric Gross Revenue (3)	Number of Communities With Transfers and Free Services (4)	Amount of Electric Transfers and Free Services (5)	Ratio of Transfers and Free Services to Gross Revenue (6)
1922	4	$ 659,434	2	$ 23,589	3.58
1923	6	910,583	1	4,000	.44
1924	11	1,197,800	4	67,932	5.67
1925	10	1,166,070	5	63,292	5.43
1926	11	1,336,084	5	50,888	3.81
1927	15	1,791,549	8	54,965	3.07
1928	18	1,971,859	14	84,099	4.26
1929	18	2,074,804	13	97,949	4,72
1930	19	2,201,213	15	151,515	6.88
1931	23	2,383,401	17	304,325	12.77
1932	23	2,201,191	20	329,257	14.96
1933	24	2,182,279	21	376,306	17.24
1934	27	2,397,284	23	267,167	11.14
1935	28	2,636,087	26	369,175	14.00
1936	30	2,902,050	28	313,345	10.80
1937	34	3,431,958	29	372,040	10.84
1938	36	3,678,734	32	493,977	13.43
1939	39	4,103,936	35	435,764	10.62
1940	44	4,439,338	36	391,906	8.83
1941	49	5,311,109	43	599,775	11.29
1942	47	5,195,071	38	598,448	11.52
1943	48	5,695,895	44	538,124	9.45
1944	50	6,182,947	43	685,845	11.09
1945	51	6,770,394	43	798,682	11.80
1946	54	7,920,105	46	985,728	12.45
Total	.....	$80,741,175	.....	$ 8,458,094†	10.48‡§

* The data in this table have been compiled from information obtained in financial statements, auditors' reports, correspondence, various issues of the *Minnesota Year Book*, and interviews with various publicly-owned and private utility officers and employees.

† Of this aggregate, $5,982,315 or 70.73% are money transfers and $2,475,779 or 29.27% represent free services.

‡ Combined ratio.

§ PWA grants of $555,656 in the aggregate to 10 of these utilities from 1934 to 1944 for capital expenditures have probably enabled some of these recipient utilities to supply funds and free services to their municipalities which could not or would not have been given without such grants. If, in conformance with the possible claim that such grants should be deducted in a comparison of public contributions of publicly-owned enterprise and taxes of private enterprise, the most extreme assumption is made that additional funds and free services equal to and made possible by these grants were given during the period covered by this table, total transfers and free services are $555,656 less than $8,458,094 or $7,902,438 and the combined ratio is 9.79.

municipality—frequently to the general fund—and to the water department in the case of six plants and to the steam heat department as well in the case of one plant for which the electric departments are separated from the other utility departments in the financial statements or the accounting systems. Incidentally, two plants made contributions to the liquor fund—to be unexpected to say the least. They also include capital expenditures on the ornamental lighting systems or white ways in eight municipalities which would build and own such street lighting systems if a private company supplied the current for street lighting. Most of these expenditures for ornamental lighting took place prior to 1940, involving seven plants. For the period from 1940 to 1946, inclusive, the amounts were much less than before, involving one of these and one other plant. The free services pertain to street lighting. They also include current for water pumping in the case of ten plants in which electricity and water are financially separated and the amount of current used for water pumping is known, and include current for lighting public buildings and various other structures or fixtures in the case of eleven plants. Free water to the municipality is also included in the case of three plants for which money transfers from electric sources could not be separated from money transfers from other utility sources. As to current, that for street lighting and water pumping constitute practically all the free current for an electric utility. The rest, like current for lighting the city hall, is comparatively insignificant.

The money value of these free services was obtained by applying the rates charged by private companies in the nearest community of comparable size for current for these purposes to the lamps or amounts of current involved in the free services.[8] In each case the rates in effect during the year in which the free service was given were used. If some charges were made by the municipally-owned plant, the excess of such rates or charges of the private electric company over the rates or charges of the municipally-owned plant were applied to the lamps or amounts of current involved. The gross revenues of the publicly-owned plants, as recorded in financial statements or accounts, were corrected where necessary to include the money values of the free services. Hence, in 1946, 54 municipally-owned generating plants had aggregate gross electric revenues of $7,920,105 (Table I). Forty-six of these 54 plants contributed in the aggregate $985,728 to their municipalities in electric money or free services. The latter amount was 12.45% of the aggregate gross electric revenues of the 54 plants. By the way, the aggregate of $8,458,094 of money transfers and free services for the 25-year period consists of $5,982,315 or about 71% money transfers and $2,475,779 or about 29% free services.

The point the author wishes to stress here is that the publicly-owned plants covered in this study were given several benefits—some known and some unknown as to extent. Cases where money transfers occurred from the municipality or, where financially separated, from the water or heat departments to the electric department (direct subsidies), or where the municipally-owned plant's charges for current for street lighting and water pumping were higher than charges of the private company serving the nearest com-

[8] The author believes that greater accuracy is attained in evaluating free services by application of the rates charged by the private company serving the nearest community of comparable size than by the use of average rates charged by private companies as a group. The rates charged by this particular company in each case would most likely, if not certainly, be charged for the services if the community with its own plant were served by a private company so far as the publicly-owned plants covered by this study are concerned.

munity of comparable size (indirect subsidies) were ignored. In other words, they were not deducted from contributions of the generating plants. Such direct subsidies to the electric department were not numerous, but in some instances were quite substantial. From 1940 to 1946, inclusive, the aggregate of them was $109,902 which went to five plants from the general fund, liquor fund, heat department, water department, and miscellaneous municipal funds. Indirect subsidies or overcharges were quite noticeable in the case of current for water pumping. In some instances the charge for water pumping was very high for the amount of current involved.

As to direct subsidies, the PWA grants to some utilities are important. These were received from the federal government which does not own or receive contributions from the recipient utilities. Ten of the municipally-owned utilities included in this study received an aggregate of $555,656 in such grants for capital expenditures from 1934 to 1944. Such a subsidy is really the depreciation over the course of time on the investment of the grants and may take the form of increased earnings "plowed back" into the property, of reduced rates to private users of the service, of money transfers to the municipality or other utility departments, or of free services to the municipality. It is possible that none of these will come about if the grants are dissipated away in inefficient operations. These grants have probably enabled some of these recipient utilities to supply funds and free services to their municipalities in the past or in the future which could not or would not have been given without such grants. Seven of these ten recipient utilities have contributed money and free services of some kind—one has contributed money and one has contributed free services of some kind since 1934.

In several cases the electric department was assumed to be the contributor of money transfers where the source of them as between the electric and other utility departments was not very clear but where it appeared that the electric department supplied the funds. Besides, all-night service for center lights in all cases and either all-night or mid-night service for ornamental lights, as the case may be, were assumed with respect to street lighting in applying private utility rates. The lights of some municipally-owned plants for which all-night service was assumed here are turned off at mid-night and the lights of some of these plants are on a moonlight basis. The effect of this assumption was to enlarge the money value of free service in some instances. Furthermore, the adequacy of the provision for depreciation may be questioned in connection with some of these plants. The recorded expenses of some of the plants do not include portions of the salaries of municipal personnel (like the city clerk) who perform the clerical work for the utility or rent for office space in municipal buildings such as the city hall. Inadequate provisions for certain costs like depreciation, as well as inaccurate accounting practice, make it uncertain sometimes, when a contribution in money or in free service is made, whether it is a return *from* the investment or a return *of* the investment. Finally, a consideration of the municipally-owned plants from which financial and operating data, necessary for inclusion in this study, could not be obtained, leads the author to believe that, because of doubtful financial results, it is very probable that plants represented in Table I compare more favorably with the private electric companies represented in Table II than would all municipally-owned generating plants in the state. In any case, the *omitted* free services, including some of a

minor nature, rendered by these plants are more than offset. In short, the position taken here is that the situation with respect to municipally-owned generating plants is represented in Table I in a fair and reasonable manner. These plants, most of which are shown to have been making contributions during the 25-year period, may be considered to be a group comparable with several private electric systems, each with their several generating plants serving numerous communities.[9]

[9] In the comparison of these contributions with taxes of private electric companies which follows, the former have not been adjusted downward in consideration of the possibility, stressed by some people, of regarding a portion of the contributions of publicly-owned plants as a return on public investment in excess of the amount of outstanding debt upon which interest is paid. In this connection, it is interesting to note that some point out the possibility of treating at least some portion of these contributions as return comparable to interest and dividend payments by private utilities on their entire investment, whereas others argue that publicly-owned utilities should be operated on a no-return basis or, as some put it, treated as cooperatives as a matter of policy. In any case, lack of necessary information and variations in policies with respect to contributions and debt retirement among municipally-owned plants make such an adjustment very difficult, if not impossible.

TABLE II—Taxes of Several Private Electric Companies Serving Communities in Minnesota*

Year	Total Gross Revenue	Total Federal, State and Local Taxes Charged to the Electric Department	Ratio of Total Taxes to Gross Revenue	State and Local Taxes Charged to the Electric Department	Ratio of State and Local Taxes to Gross Revenue
(1)	(2)	(3)	(4)	(5)	(6)
1922	$ 11,347,467	$ 970,262	8.55	$ 584,788	5.15
1923	12,900,532	1,038,556	8.05	645,435	5.00
1924	15,899,439	1,324,876	8.33	817,446	5.14
1925	23,192,953	1,739,453	7.50	1,228,305	5.30
1926	28,274,019	2,666,715	9.43	1,978,009	7.00
1927	29,894,465	2,729,721	9.13	2,007,658	6.72
1928	31,461,701	2,839,600	9.03	2,194,697	6.98
1929	32,913,154	2,806,186	8.53	2,157,399	6.55
1930	33,834,781	3,004,166	8.88	2,449,608	7.24
1931	34,253,245	2,939,243	8.58	2,653,920	7.75
1932	31,809,745	3,534,440	11.11	2,850,036	8.96
1933	30,489,352	3,619,969	11.87	2,926,343	9.60
1934	32,099,411	4.412,379	13.75	3,374,575	10.51
1935	33,076,768	4,556,523	13.78	3,495,596	10.57
1936	35,789,892	5,171,399	14.45	3,649,341	10.20
1937	37,248,916	5,300,927	14.23	3,931,622	10.55
1938	36,515,894	6,175,755	16.91	4,214,173	11.54
1939	39,225,151	6,870,459	17.52	4,459,390	11.37
1940	43,963,559	8,655,031	19.69	4,850,627	11.03
1941	46,935,099	11,833,698	25.21	5,167,016	11.01
1942	50,284,299	14,637,662	29.11	5,361,663	10.66
1943	52,520,152	15,840,628	30.16	5,360,097	10.21
1944	54,337,022	16,855,267	31.02	5,390,482	9.92
1945	59,266,884	13,571,337	29.90	5,661,329	9.55
1946	62,622,881	16,021,521	25.58	6,788,215	10.84
Total	$900,156,781	$159,115,773	17.68†	$ 84,197,770	9.35†

* The data in this table have been compiled from financial data obtained from private utility companies either directly or by correspondence. These companies generate all or practically all of their current and supply directly or at retail 433 or 74.91% of the 578 communities supplied by private companies.
† Combined ratio.

The ratios for the municipally-owned plants show a rough, uneven tendency to increase to the middle 1930's and to decrease subsequently through 1940, and a tendency to stabilize at a 11-12% level during the war years in the 1940's with a "dip," however, in 1943. After a substantial increase in 1931 over 1930, the ratios have been on a distinctly higher level than prior to 1931. This higher level up to the entry of this country into the war and particularly the comparatively high ratios from 1931 to 1935, inclusive, were attributable primarily to the fact that some plants began making contributions and some increased their contributions after 1930. No doubt the financial difficulties of the communities during the depression contributed to this tendency. The 11-12% level of ratios from 1941 to 1946, inclusive, is quite likely higher than it would be had there been no war. During these years, increasing demands for service, inability to obtain equipment and materials for expansion, fuller utilization of plant, and price and wage controls made for increased earnings which, in turn, made possible greater contributions to the municipalities than otherwise.

The contributions of funds and free services are quite concentrated as to the number of plants involved out of the total. During the 1930's, almost ½ to about ¾ of the contributions from year to year, consisting for the most part of money transfers, were made by three plants in 1931, four plants in 1932, 1933, 1934, 1936, and 1937, and six plants in 1935, 1938, and 1939. During the 1940's covered by this study, from about ⅔ to about ¾ of the contributions came from six plants in 1940, seven plants in 1943 and 1944, eight plants in 1941, 1942, and 1945, and 14 plants in 1946. Nearly all of these plants are in communities with populations over 5,000. Four of these plants, all of which are in such communities, consistently contributed comparatively substantial annual amounts from 1932 to 1939, inclusive; six plants, all of which are also in such communities, did so from 1940 to 1946, inclusive. As a group, the plants in communities with populations over 5,000 included in this study did not contribute annually over the period of the 1930's percentages of their gross electric revenues significantly different from those contributed by the rest of included plants, all of which were in communities of less than 4,000. The contributions of the large plants during that time were comparatively large, but so were their revenues. But, from 1940 to 1946, inclusive, the plants in communities over 5,000 in population as a group contributed percentages of their gross electric revenues which on the average were at least twice as high as the average of percentages of the rest of the plants. The contributions of the large plants in recent years were not only comparatively large absolutely but relative to their revenues as well.

The data for electric taxes and electric gross revenues for several private electric companies serving about ¾ of the communities supplied by private companies and involving the bulk of the private electric business in Minnesota are presented in Table II. These companies generate all or practically all of their current. Ratios are presented for both total (federal, state, and local) taxes and also for state and local taxes. Some people, in viewing this problem of contributions versus taxes, assume that federal taxes should be excluded. In fact, some people take this position with respect to the taxes of all governmental units except the owner governmental unit—in this case the municipality. On the other hand, it must be remembered that some one must pay taxes to support govern-

mental units, including the federal government. Private utilities pay taxes toward support of all of them. Furthermore, the point for exclusion of federal taxes in the comparison involved here becomes especially questionable since the middle 1930's in the light of the increase in federal taxes relative to state and local taxes and the increase in amounts and kinds of federal grants to the states, including PWA grants to some municipally-owned utilities during and after 1934 for a number of years. Taxes on income and in recent years on excess profits have accounted for nearly all of the federal taxes; state and local property taxes have accounted for most of the state and local taxes. Incidentally, the excess profits tax accounted for over one-half of the federal taxes in recent years. As indicated in Table II, federal taxes greatly exceeded state and local taxes after 1940.

To 1932 the ratios for the private companies for total taxes remained at about a constant level while those for state and local taxes increased somewhat. After a distinct increase in the ratio for total taxes and a noticeable increase in the ratio for state and local taxes in 1932 over 1931, the ratios for total taxes continued to rise during the depression of the 1930's and, after a substantial rise in 1941 over 1940 to over 25%, continued to rise during the war; while the ratios of state and local taxes remained on about a constant level from the early 1930's. Hence, the rise of the ratios for total taxes after 1931 was due to increases in federal taxes. The substantial decline in the ratio for total taxes in 1946 from 1945 reflects the decrease in the federal corporate income tax and elimination of the federal excess profits tax by Congress in 1945.

The series of ratios in Table I and II are brought together in Table III. The ratios for municipally-owned plants may be compared with both the ratios of total taxes and ratios of state and local taxes of the private companies.

As indicated in Table III, the ratios for municipally-owned generating plants are less than either the corresponding ratios for total taxes or for state and local taxes for the private companies in 10 of the 25 years or in 1922, 1923, 1926, 1927, 1928, 1929, 1930, 1939, 1940 and 1943; and less than the corresponding ratios for total taxes for the private companies in 21 years (including the last 11 years) of the period, the exceptions being 1931, 1932,

TABLE III—RATIOS OF CONTRIBUTIONS OF MUNICIPALLY-OWNED GENERATING PLANTS AND TAXES OF PRIVATE ELECTRIC COMPANIES TO GROSS ELECTRIC REVENUE IN MINNESOTA*

Year	Municipally-Owned Generating Plants	Private Electric Companies	
	Ratio of Electric Transfers and Free Services to Electric Gross Revenue	Ratio of Total Electric Taxes to Electric Gross Revenue	Ratio of State and Local Electric Taxes to Electric Gross Revenue
1922	3.58%	8.55%	5.15%
1923	.44	8.05	5.00
1924	5.67	8.33	5.14
1925	5.43	7.50	5.30
1926	3.81	9.43	7.00
1927	3.07	9.13	6.72
1928	4.26	9.03	6.98
1929	4.72	8.53	6.55
1930	6.88	8.88	7.24
1931	12.77	8.58	7.75
1932	14.96	11.11	8.96
1933	17.24	11.87	9.60
1934	11.14	13.75	10.51
1935	14.00	13.78	10.57
1936	10.80	14.45	10.20
1937	10.84	14.23	10.55
1938	13.43	16.91	11.54
1939	10.62	17.52	11.37
1940	8.83	19.69	11.03
1941	11.29	25.21	11.01
1942	11.52	29.11	10.66
1943	9.45	30.16	10.21
1944	11.09	31.02	9.92
1945	11.80	29.90	9.55
1946	12.45	25.58	10.84
Combin'd Ratio	10.48%†	17.68%	9.35%

* The data in this table have been taken from Tables I and II.
† If PWA grants are deducted, this combined ratio becomes 9.79, as pointed out in a footnote of Table I.

1933, and 1935 with a difference of less than ¼ of 1% in the latter year. As pointed out previously, contributions were commenced or increased during these exceptional years in some communities. Under the impact of the war demands of the federal government for revenues, the ratios for total taxes of the private companies pulled away from those of the municipally-owned plants after 1940 with the ratios of the latter becoming less than one-half (much less than one-half in 1942, 1944, and 1945 and less than one-third in 1943) than those for the former. Incidentally, the ratios for the publicly-owned plants were less than those for state and local taxes of the private companies in 10 years of the period when they would also of course be lower than the corresponding ratios for total taxes of the private companies, as pointed out above. The ratios for the publicly-owned plants were less than those for state and local taxes of the private companies to the extent of only ¾ of 1% or less in 1930, 1939, and 1934; and were greater only to the same extent in 1924, 1925, 1934, 1936, 1937, and 1941.

The combined ratio for the entire period for publicly-owned plants is lower than the combined ratio for private companies for total taxes but higher than the combined ratio for private companies for state and local taxes. The relationship between PWA grants and contributions of recipient municipally-owned generating plants has been pointed out. Some may claim that such grants should be deducted from contributions of the recipient utilities in comparing public with private ownership and operation as to contributions and taxes. The extent of the relationship is unknown. However, if, in conformance with this claim, the most extreme assumption is made that additional contributions equal to and made possible by these grants were given during the period covered by the study and the aggregate of such grants were deducted from the total contributions, as presented in Table II, the adjusted combined ratio for the municipally-owned plants is lower than before but remains below the privately-owned companies' combined ratio for total taxes and a little above their combined ratio for state and local taxes. It may be interesting to note that, if the years after 1939 which were affected by stepped-up defense expenditures and the war are eliminated, the combined ratio for the peace-time period from 1922 to 1939, inclusive, was 9.84% for the municipally-owned plants (8.63% if adjusted for PWA grants received from 1934 to 1939, inclusive) as compared with 11.64% for total taxes and 8.60% for state and local taxes of private companies.[10]

Thus, the total contributions in money and free services of the electric departments of municipally-owned generating plants in Minnesota year by year over the 25-year period covered in this study, with the exception of only four years, constitute a smaller ratio of their gross electric income, corrected to include the monetary value of these free services, than the ratio of all taxes charged against the electric department to the electric gross income of private electric utilities serving communities in Minnesota. However, the ratios of contributions to gross income of these publicly-owned plants are more than the ratios of state and local taxes to gross income of private companies in 15, or 3/5 of the years in the period. These 15 years came after 1930 with two exceptions and include the last 3 years of the period. The excesses of the ratios for publicly-owned plants over those for state and local taxes of private companies were very small in six of these years. However, it might be added that

[10] Borak, *op. cit.*, February 1941, p. 65.

the deficiencies for the other 10 years were also very small in three of these years. The excesses more than offset the deficiencies to make the over-all combined ratio for publicly-owned plants higher than the corresponding ratio for state and local taxes of private companies.

As to individual publicly-owned plants the proportions of contributions to gross income are very un-uniform. There are great differences between ratios of the various plants for a particular year. Generally those in the comparatively larger communities have contributed in recent years larger proportions of their gross incomes than those in smaller places. The non-contributors are for the most part small plants, with several contributing nothing in recent years. The ratios for publicly-owned plants in Tables I and III would be smaller if 12 plants (out of the 54) which are in communities with populations over 5,000 were excluded. As a rule there are wide variations in ratios over the years for the individual plant. The contributions, particularly the money transfers, of publicly-owned generating plants, even in communities where the plants consistently make comparatively significant contributions over the course of time, are much more irregular than taxes as sources of governmental revenues. During the depression after 1930, particularly from 1931 to 1935, inclusive, these contributions were quite frequently the result of public pressure for them by communities in financial difficulties. Under this pressure, liberal contributions or liberal increases in them were made for a time from earnings, past accumulations, or both, at a pace which sometimes appeared to be detrimental to a sound policy concerning provisions for depreciation. Then the contributions were stopped or became less liberal. At times the demands of the public for contributions to the municipality or for reductions in rates to private customers, together with its lack of understanding of depreciation and the necessity for its provision, have presented a difficult situation for the managers of publicly-owned utilities. However, the author has noticed that in recent years an effort is being made in a rather rapidly increasing number of municipalities, particularly the comparatively larger ones, to institute and maintain a somewhat definite policy as to regular annual money contributions to the community—sometimes referred to as a "tax" or "tax equivalent" and in some instances expressed as a fixed amount and in a few instances as some per cent of gross income.

Hence, because of differences and variations between publicly-owned plants, what they do with respect to contributions relative to the taxes of private companies is one matter as to an aggregate of them, as that in Tables I and III, and another matter as to an individual plant. Of course, the data in these tables and Table II pertain to a group of publicly-owned plants and a group of private companies year by year and for the whole period covered and not to individual plants or private companies. However, it appears that, with some exceptions, the contributions in communities with municipally-owned generating plants have not been the equivalent of total taxes. On the other hand, it appears that these contributions have been a little above the equivalent of state and local taxes *on the average*, with numerous or many exceptions above and below this average.

Electric Rates

It may be contended that, if the contributions are less than taxes, the service rates to customers in communities with publicly-owned generating plants are lower than those of private utilities, for

the rates may be predicated in the former upon costs of operation which do not necessarily include taxes. Such a contention is not warranted by the data presented in Table IV with respect to current for residential use which is financially the chief market for publicly-owned plants; and Table V with respect to current for commercial lighting which is second in importance as a market for these plants. The data on residential charges in Table IV for communities with populations of 500 or more, based for the most part on rate information gathered and issued by the Federal Power Commission, reveal that the average monthly bill for residential use in 1946 was the same for 15 kwhs. and higher for the other amounts—25, 40, 100, 250, and 500 kwhs.—in 62 communities (out of 64 operating during the year) served in 1946 by their municipally-owned generating plants as a group than in 245 communities (out of 578) served by private electric companies as a group.[11] In 1940, the average monthly residential bill of publicly-owned plants

[11] In this study the median average has been selected over other possible types of averages with respect to service charges with one exception, municipal taxes, and municipal debts because the influence of some extreme cases on the result is minimized in its computation. Among the electric plants and communities covered in this study, there are some extremely high and low cases with respect to service charges, taxes, and debts which are attributable to unusual or abnormal conditions. In such a situation, use of the median average is considered sound statistical practice.

TABLE IV—CHARGES MADE BY MUNICIPALLY-OWNED GENERATING PLANTS AND PRIVATE COMPANIES IN MINNESOTA FOR RESIDENTIAL USE OF ELECTRIC CURRENT IN 1946*

(*net monthly charge*)

	62 Communities Served by Municipally-Owned Generating Plants†					245 Communities Served by Private Companies‡				
				Approximate Middle Half of Communities					Approximate Middle Half of Communities	
Kwhs.§	High	Low	Median	No.	Range	High	Low	Median	No.	Range
15	$ 2.00	$ .50	$1.00	47	$1.00–$1.20	$ 1.50	$.75	$1.00	195	$ 1.00
25	3.00	.63	1.56	33	1.42– 1.90	2.43	1.00	1.25	193	$ 1.00–$1.50
40	4.05	1.00	2.32	35	2.16– 2.80	3.71	1.52	2.00	193	1.60– 2.40
100	6.30	2.04	4.32	32	3.90– 4.60	5.70	3.32	4.00	193	3.50– 4.50
250	10.75	3.84	7.45	34	6.75– 8.15	9.37	6.30	7.25	186	6.75– 7.50
500	18.00	5.84	10.17	32	9.44–11.05	14.10	8.91	9.75	178	9.25–10.00

* Computed and compiled from data on rates in Federal Power Commission, National Electric Rate Book, Minnesota Section, July 1946 and from rate data obtained directly for a few communities with populations of 500 or more but less than 1,000 for which the rate schedules are not presented in the National Rate Book. The National Rate Book presents the rate schedules of communities with populations of 1,000 or more and those of smaller communities of 500 population or more to 1,000 for which the rate schedules are the same as those in the larger places. The columns showing median charges are interesting. It will be noted that the charges of the private companies are the same for 15 kwhs. and are lower than those of municipally-owned generating plants for all of the other amounts of current. Furthermore, these charges of the private companies are based upon their actual rates unadjusted downward for taxes which they pay and from which municipally-owned generating plants are exempt.

† Two communities with municipally-owned generating plants but with populations of less than 500 as well as 80 communities which own their electric distribution systems and 3 communities with distribution systems owned by a municipally-owned generating plant in one case and municipally-owned distribution systems in two cases elsewhere are not included. These places purchase current at wholesale from private companies in most cases and from municipally-owned generating plants and REA cooperative power associations in others.

‡ All but three of the communities with populations of 500 and over served by private companies. Hence, besides these three places, 330 communities with populations of less than 500 served by private companies as well as 25 communities served by REA cooperative power associations at retail are not in this table.

§ Billings are based on a five-room residence for the following services with the various amounts of current: lighting and small appliances for 15, 25, and 40 kwhs.; lighting, small appliances, and refrigeration for 100 kwhs.; lighting, refrigeration, and cooking for 250 kwhs.; and lighting, refrigeration, cooking, and water heating for 500 kwhs. These service distinctions are significant, of course, only for communities which have separate rates and meters for them.

was lower for 40 and 100 kwhs. and higher for the other amounts.[12] In 1935, they were lower for 15 and 25 kwhs. and higher for the other amounts.[13]

The downward tendency in electric rates of both publicly-owned and private utilities during the decade of the 1930's continued during the 1940's covered in this study. As to residential use, comparison of the data in Table IV with similar data compiled from the same basic sources in the previous studies shows that the average monthly bills for the various amounts of current in 1940 were lower than those in 1935 for all of the amounts in both groups of communities, and in 1946 were lower than those in 1940 for all but one of the amounts (for 15 kwhs. from private companies the charge was the same) in both groups of communities. However, the extent of the decreases varied with the amount of current and group of communities. The average or median charges of municipally-owned plants in 1946 were lower than those in 1940 to the extent of 5c for 15 kwhs., 19c for 25 kwhs., 22c for 40 kwhs., 18c for 100 kwhs., 34c for 250 kwhs., and 48c for 500 kwhs. For private companies they were the same in 1946 as in 1940 for 15 kwhs. but were lower to the extent of 41c for 25 kwhs., 66c for 40 kwhs., 56c for 100 kwhs., 35c for 250 kwhs., and 48c for 500 kwhs. Hence, the reductions in recent years by private companies have been generally greater than those by municipally-owned plants. Of course this situation resulted in the differences between the average or median charges in the two groups of communities becoming greater in 1946 than they were in 1940. In 1940 the excesses of the average charges of publicly-owned plants over those of private companies were 5c for 15 kwhs., 9c for 25 kwhs., minus 12c (lower) for 40 kwhs., minus 6c (lower) for 100 kwhs., 19c for 250 kwhs., and 42c for 500 kwhs. In 1946 they were zero for 15 kwhs., 31c for 25 kwhs., 32c for 40 kwhs., 32c for 100 kwhs., 20c for 250 kwhs., and 42c for 500 kwhs. In other words, the various average bills in the two groups of communities were farther apart in 1946 than in 1940. In contrast, they were closer together in 1940 than they were in 1935 due to the fact that between 1935 and 1940 the reductions by publicly-owned plants were generally greater than by private companies.[14] In short, the average monthly residential bills for the various amounts of current became closer together between 1935 and 1940, but became farther apart between 1940 and 1946.

The data on commercial lighting charges in Table V for communities with populations of 1,000 or more, based on rate information gathered and issued by the Federal Power Commission, reveal that the average or median monthly bill for commercial lighting in 1946 was higher for all the various amounts of current—50, 150, 375, 750, and 1,500 kwhs. in 56 communities served in 1946 by their municipally-owned generating plants as a group than in 110 communities served by private electric companies as a group. A comparison of charges for commercial lighting was not undertaken in either of the two previous studies.

In the light of the rapid growth of REA distribution cooperative power associations which supply through their rural transmission lines their member farmers at retail current purchased from elsewhere at wholesale, the comparative average wholesale charges of the three types of suppliers to these distributive cooperatives are interesting. The data here pertain to the year ending June 30, 1946 and do not include energy resold

[12] Borak, *op. cit.*, February 1941, p. 66.

[13] Borak, *op. cit.*, May 1937, p. 127.

[14] Borak, *op. cit.*, February, 1941 p. 67.

by one distribution cooperative to another or energy sold on a standby basis. Here the weighted arithmetic mean is used because of the small number of cases. However, the relative positions of the three types of suppliers would have been the same had the median average been computed here. Incidentally, some distribution cooperatives purchase current at wholesale from more than one of these types of suppliers. Six private companies supplied 41% of the current involved here to 27 cooperatives at an average charge of 1.20c per kwh. Twenty-one municipally-owned generating plants supplied 32% of the current involved here to 18 cooperatives at an average charge of 1.22c per kwh. Five REA generating cooperatives supplied 27% of the current involved here to 16 cooperatives at an average charge of 1.35c.[15] Thus the private companies "take the inning" again.

It may be contended by some that the substantial number of municipally-owned electric enterprises in Minnesota probably has been a competitive factor making for a lower level of rates in the state than would prevail otherwise. Others may differ with this contention. It is significant to note that during the war the private companies met the greatly increased demands for tax revenues by the federal government as well as their state and local taxes and at the same time reduced their service rates to a greater extent than did publicly owned plants while the latter made contributions to their municipalities a little above the state and local tax equivalent.

[15] Computed from data in United States Department of Agriculture, Rural Electric Administration, *Eighth Annual Report of Energy Purchased by REA Borrowers*, Fiscal Year Ended June 30, 1946, pp. 29-31.

TABLE V—CHARGES MADE BY MUNICIPALLY-OWNED GENERATING PLANTS AND PRIVATE COMPANIES IN MINNESOTA FOR ELECTRICAL CURRENT FOR COMMERCIAL LIGHTING IN 1946*

(*net monthly charge*)

	62 Communities Served by Municipally-Owned Generating Plants†					245 Communities Served by Private Companies‡				
				Approximate Middle Half of Communities					Approximate Middle Half of Communities	
Kwhs.	High	Low	Median	No.	Range	High	Low	Median	No.	Range
50	$ 5.00	$1.25	$ 3.19	28	$2.93 $3.70	$ 4.00	$ 2.25	$ 2.50	78	$ 2.50–$3.10
150	12.50	3.75	8.66	28	7.50– 9.30	9.34	6.08	7.50	69	7.50– 8.23
375	28.25	9.38	18.00	28	16.10–19.43	20.59	13.16	17.00	67	16.15–17.00
750	53.50	17.50	30.25	28	26.75–33.75	39.00	23.85	29.50	61	29.50–31.12
1500	94.50	32.50	52.75	28	45.98–58.00	76.50	39.69	52.00	61	52.00–53.50

* Computed and compiled from data on rates in Federal Power Commission, National Electric Rate Book, Minnesota Section, July 1946 for communities with populations of 1,000 and over. Communities with populations less than 1,000 are not included. The columns showing median charges are interesting. It will be noted that the charges of the private companies are lower than those of municipally-owned generating plants for all the various amounts of current. Furthermore, these charges of the private companies are based upon their actual rates unadjusted downward for taxes which they pay and from which municipally-owned generating plants are exempt.

† Communities which own their electric distribution systems and purchase their current at wholesale from elsewhere are not in this table.

‡ Communities served at retail by REA cooperative power associations are not included in this table. Incidentally, all of the communities so served have populations of less than 1,000.

Tax Rates and Debts in Communities with and without Municipally-Owned Electric Utilities

From what has been said above, the reader may infer that municipal property taxes and municipal indebtedness are lower in cities and villages where utility service is supplied by municipally-owned plants than in those relying on private utilities. The service rates to private customers are higher in the former than in the latter to make possible the payment of the tax equivalent. In the light of the comparison between contributions of municipally-owned electric plants, all of which go to the municipalities that own them, and taxes of private utilities, the taxes and debts (at least the taxes) should be lower in the former localities, providing "other things are equal." The contributions are slightly above the state and local tax equivalent (on the average) and go entirely to one local—the owner municipality. But other things are never actually equal. However, if taxes and debts are higher, the situation is certainly contrary to that claimed by many enthusiasts for government ownership and operation of electric utilities. One must be cautious in drawing conclusions from the comparative data sometimes presented in this controversy.

One can take a sample of 20 Minnesota cities with municipally-owned electric plants and 20 cities without municipally-owned electric plants, exclusive of the three large cities. Results will depend on the selection of the cities that go into the two samples. Furthermore, the tax levy depends on many factors other than what the utility pays. If municipal taxes or debts are being compared, the variation in the distribution of duties between the counties and cities should be remembered. For example, in some counties the county government levies taxes for relief purposes; in others the localities take care of the levy. Furthermore, whether one considers taxes or debts for municipal purposes or for all local purposes, including schools, or for all purposes, including the state, the amounts will vary among cities, depending on the amount and quality of services demanded and also on the amount of taxable property or wealth. Besides, tax rates and debts are affected by the quality of assessment practices which varies from locality to locality. There is no uniformity in services demanded, distribution of services between governments, per-capita taxable property, or quality of assessments between the various local units.

In the comparisons which follow, all cities and villages in the state which own their electric generating plants and distribution systems (all are incorporated cities and villages) are placed in one group, and all the incorporated cities and villages which are served by private electric utilities, REA distribution cooperatives, or an unknown type of service if any, are placed in another.

In Minnesota the median municipal tax levy per capita (on tangible property) for 1946 levies payable in 1947 is $10.25 in the 63 communities served by municipally-owned generating plants, and $6.25 in the 609 communities served by private electric utilities in 578 cases; by REA distribution cooperative power associations in 25 cases, and by an unknown source of service, if any, in six cases. The median municipal tax levies plus special assessments per capita for the two groups of communities are $10.75 and $6.49, respectively.[16] With 369 or over one-half of the 609 municipalities in the latter group free of bonded debt to give a median of zero, the median municipal

[16] Computed and compiled from data supplied by the Minnesota Department of Taxation.

gross bonded debt per capita as of December 31, 1946 is $32.68 in the 63 communities served by municipally-owned generating plants and zero in 609 communities served by private companies, REA distribution cooperative power associations, and an unknown type of service. The median municipal net bonded debt (gross bonds and certificates outstanding less cash on hand in local debt service funds and in the county auditor's state loan accounts) per capita for the two groups of communities is $25.43 and zero, respectively. The median ratios of municipal gross bonded debt to assessed valuation of tangible property for the two groups of communities are 10.96% and zero, respectively. Those for municipal net bonded debt to assessed valuation of tangible property are 10.14% and zero, respectively.[17] Data on per capita debt and gross debt to assessed valuation were not presented in the previous studies.

The relative positions of these two groups of communities as to municipal taxes and debts in 1946 are the same as those in 1940 and 1935.[15] However, in the past seven years, the amounts of the tax levy per capita, tax levy plus special assessments per capita, and net debt ratios to assessed valuation have decreased in both groups of communities. War restrictions have eliminated some occasions for local levies of taxes and special assessments and many occasions for issuance of local bonds, and the continued availability of local current revenues have left surpluses for reduction of local debt. Besides, tax and debt data in this study are based on 1940 population figures which are generally higher than the 1930 population figures used in the previous studies, and on 1946 assessed valuation figures which are higher than those of the preceding years of the previous studies. Assessed valuations declined in the late 1930's and early 1940's. Furthermore, the rates of decrease have been smaller in two of the three amounts for the group of communities served by municipally-owned generating plants than for the other group. Between 1940 and 1946 the average or median municipal tax levy per capita declined 40c or 3.76% in the communities with publicly-owned plants and 49c or 7.27% in communities served by private companies, REA distributive cooperatives, or an unknown source of service. The average municipal tax plus special assessments per capita declined $1.66 or 13.38% in the former and 65c or 9.10% in the latter. The average ratio of municipal net debt to assessed valuation declined $1.42 or 12.28% in the former and 100% (zero median) in the latter. The persistence of higher tax levies per capita and lesser percentage decrease in them over the last seven years in communities served by their municipally-owned generating plants which have been contributing the equivalent of state and local taxes and better, at least as indicated by the large proportion of these plants included in this study, are very interesting, and, indeed, very surprising. Equally interesting and surprising, as pointed out in the previous study, were not only the persistence of comparatively high tax levies per capita but the comparatively great percentage of increase in them in communities served by their municipally-owned generating plants between 1935 and 1940, when tax levies per capita were increasing. Probably people who want public ownership and operations have comparatively liberal desires and demands for public services in general and vice versa.

[17] Computed and compiled from data supplied by the Minnesota Office of Public Examiner.

[18] Borak, *op. cit.*, February 1941, p. 68, and May 1937, p. 128.

The case with respect to tax- and debt-free cities and villages in Minnesota is likewise interesting. In 1946 only 25 of the 755 incorporated cities and villages in the state reported no 1946 municipal property tax levy or municipal property tax levy plus special assessments payable in 1947. One of these places has a population of 1,317 and the rest have populations under 800 with 16 of them under 300. They are served by private electric companies in 21 of the 25 cases and by municipally-owned electric distribution systems without generating plants in four cases. Significantly, 15 of these 25 tax-free communities had municipal liquor stores which in general are quite productive of revenues above costs to supplement or replace taxation. There were 423 communities which reported no municipal bonded debt as of December 31, 1946. Of these, 344 are served by private electric companies, 11 by their municipally-owned generating plants, 40 by their municipally-owned electric distribution systems without generating plants, three by electric distribution systems owned by municipally-owned systems in near-by cities, 19 by REA distribution cooperative power associations, and six by an unknown type of service if any.

It might be contended that the comparatively larger debts on the average in localities with municipally-owned generating plants may be attributable in part to the acquisition or construction of their electric facilities, which constitute valuable earning assets behind the loans. On December 31, 1946, 19.23% of municipal bonded debt consisted of utility bonds. As to the comparatively higher taxes on the average in these localities, it might be contended that the situation is only a statistical accident. The differences in tax rates among various communities may reflect differences among communities in the distribution of public functions between cities and their county governments, in the amount and quality of services demanded, and in the amount of taxable property or wealth—all regardless of municipal or private utility ownership. On the other hand, it might be contended that municipal ownership is not successful in some places and also quite generally not conducive to results alleged by some enthusiasts for it due to inability to generate current economically in small places, managerial inefficiency, or politics. In any case, freedom from local taxes or debts does not seem to be associated with any particular type of utility ownership.

Conclusion

The diversity in accounts of municipally-owned utilities makes analysis difficult. Unfortunately, services from the utility to the municipality, such as street lighting, are not always charged and paid for by the city, as is done in Rochester, Virginia, and Moorhead. It might be well also if municipal electric plants included in costs upon which rates are based not only adequate provision for depreciation but also the equivalent of taxes that a private utility would have to pay. Such a charge might well be collected. Rochester, Le Sueur, and Sleepy Eye are to be commended in this respect. Minimum electric rates to which the utility customer is entitled are those predicated upon costs of operation including interest on debts, reasonable provision for depreciation, [19] and the tax equivalent.

[19] But to include both depreciation and sinking fund or amortization of investment might mean double allowance for that part of the cost of the plant financed by bonds. If a community pays all interest and retires its purchase bonds during the life of the plant, it need not also set up a depreciation reserve out of which to restore the plant, if it wants each generation to finance its own services. If, however, a community owns a public utility plant free of debt and

(*Footnote 19 continued on page 398*)

The findings of this study in Minnesota, on the whole, indicate that the contributions of municipally-owned electric generating plants to their communities generally have not been equivalent to total (federal, state, and local) taxes. However, they have been equivalent to or in excess of the equivalent of state and local taxes. The findings also indicate that such public ownership distinctly has not resulted in comparatively low municipal tax rates or debts or even in comparatively low recent decreases in them in spite of what equivalence or better has obtained between contributions and state and local taxes over the years. Furthermore, the findings indicate that the public has not realized an offsetting gain in the form of comparatively low electric rates from such ownership.

(Footnote 19 continued from page 397)

has no interest to pay, it should build a depreciation reserve for replacing the plant if it wants to pay its own way and leave the next generation in as good a position as it found itself. The differences between public and private accounting and the legitimate requirements of public policy should be kept in mind in this connection.

An Economic Evaluation of FHA's Property Improvement Program

By CARTER McFARLAND*

HAS FHA's Title I modernization program accomplished the purpose for which it was established?[1] Some will quickly answer yes, and cite the 6,128,-254 property improvement loans totaling about two and one-half billion dollars which have been insured under Title I during the past 12 years. Undoubtedly the stimulation of modernization and repair loans in such volume has done much to improve the existing housing stock. But there is more to Title I than this.

Like other federal legislation of the period affecting housing, Title I is characterized by a curious duality of objective. It was not only a program designed to improve housing standards and conditions; it was also a part of the federal government's fiscal policy designed to influence the volume, terms and maturities of credit extended to finance real property and, thereby, to stimulate employment. If anything sets Title I apart from other federal housing legislation it is the fact that even more emphasis than usual was placed on the fiscal aspects of the plan, even less on its implications for housing.

During the early years of its operation Title I was conceived and administered almost exclusively as a recovery measure aimed at putting men back to work by stimulating the flow of funds into the construction industry. After 1938 there was a gradual decrease of emphasis on the strictly emergency nature of Title I and an increased emphasis on its permanent place in the federal fiscal structure. This change was reflected in the 1939 amendments which provided for a premium to be charged lending institutions for Title I insurance, designed to make the operation pay its way. In 1941 Title I entered another phase, during which efforts were made to adapt it to the limitations and needs of a war economy. This was a period which presented exactly the reverse economic circumstances of those in which the modernization plan was created.

Title I, then, is not only a housing measure; it is also an instrument of fiscal policy. What were its objectives and by what standards can its success be measured? Title I clearly has been an attempt on the part of the federal government to influence the volume of instalment credit outstandings in the field of property repair and improvement. Since increased employment has been the final objective, this attempt evidently has been based on the assumption that a change in the volume of instalment credit outstandings can influence the volume of monetary purchasing power and that additions to monetary purchasing power can have a stimulating effect on production and employment. Inherent in Title I also is the assumption that the volume of instalment credit outstandings in this

* Associate Professor of Economics, College of St. Thomas.

[1] Title I of the National Housing Act provided for a system of government insurance on instalment loans made "for the purpose of financing alterations, repairs, and improvements upon real property." The face amount of an individual note was limited by the Act to $2,000 but this was increased by subsequent amendments to $5,000. Maximum maturities permitted on insured notes have been generally five years. Maximum financing charge permitted by FHA on Title I loans has been a charge equivalent to a $5 discount on a $100 note. This amounted to a true rate of 9.72 percent on the diminishing balances. Under an amendment passed in 1938 some loans have been made to finance the building of low-priced houses, but this has not been a significant part of the Title I operation.

field could be increased through a provision for federal insurance against loss which, in effect, guaranteed to the lending institution the liquidity of the loans. It evidently was assumed, also, that an increase in instalment credit outstandings could be facilitated by a relatively low credit cost to the consumer and an increase in the length of maturities of the loans.

Such a plan as this could hardly be based on classical economic theory. The classical equation of exchange, first formulated by Jean Baptiste Say, described exchange as essentially a process of barter between producers. Each person's purchasing power was represented by goods which he himself brought to the market. Thus, total purchasing power would remain identical with output regardless of the quantity flow of money. Money, therefore, played an entirely neutral role, merely oiling the wheels of exchange. On the basis of this theory, the introduction of additional consumer credit could never increase total purchasing power. Such an addition of consumer credit might increase the demand for consumer goods but this necessarily would mean a corresponding reduction in the demand for producers' goods and, therefore, no change in aggregate output. Since the classicists laid great stress on the formation of capital, a shift of productive facilities in the consumer goods industries would, in the long run, influence the rate of production by retarding the flow of capital into production. This explains why the classical economists tended to consider consumer credit as "spendthrift" credit, holding that it facilitated the flow of credit into extravagant living and contributed nothing to production. Thus, Title I, which was expressly designed to stimulate the volume of consumer credit, would have found no supporters among the classical economists.

Only with J. M. Keynes and his followers was a general economic theory advanced which held that increases in monetary purchasing power could be stimulating to production and to employment. The Keynesian theory held that the amount of employment in a free economy is determined by the decisions of individual employers. Their decisions as to the number of people they employ, the amount of products they produce, and the investments they make in new plant equipment are guided largely by the outlook for profits, which depend upon the opportunity to sell goods profitably, that is upon demand. Demand, however, depends upon money expenditures by individuals. The ability of people or corporations to expend money for goods, in turn, depends upon the expenditures of other people or corporations. This full flow of expenditures and of incomes, however, is retarded by the fact that men do not spend their full incomes: they save. Their savings do not all go into investment in factories and machines which flow out at once as income. Investment rests upon the decisions of business executives as determined by their profit outlook. The very act of saving, however, reduces the outlook for profit because it reduces the demand for goods. In short, the decision of individuals to save reduces the demand for consumers' goods without increasing the demand for capital goods. There cannot be full employment of resources, according to the Keynesian theory, if the amount that businessmen are willing to invest is less than the amount that all individuals combined would want to save out of incomes which full employment o resources would entail.

Thus, according to this theory, the relation between saving and investment determines the immediately succeeding movement of incomes. But the relation

between saving and investment is determined by the rate of spending and by the rate of investment. An injection of idle money or credit into the income circulation (dissaving) tends to produce a multiple expansion of effective demand by virtue of its primary, secondary and tertiary effects. A withdrawal of money or credit (saving) correspondingly tends to produce a multiple contraction of effective demand.

Under this theory it has been generally held[2] that additions to consumer credit outstandings constitute a net addition to total purchasing power and therefore to effective demand and are stimulating to production and employment. This conclusion is based on the belief that most consumer instalment credit is not of the transfer type, that is, that an outlay of consumer credit does not entail a corresponding amount of saving either by the borrower or by the lender. This thesis is the only one on which Title I can be justified on the basis of economic theory.

The Keynesian viewpoint also offers an explanation of a significant aspect of the manner in which Title I was administered and of why it was so heavily supported by business interests. Title I has been generally viewed as a government excursion into the field of consumer credit. The National Bureau of Economic Research has so identified it by including a study of Title I in its series of *Studies in Consumer Instalment Financing*. In Volume 5 of this series, Joseph D. Coppock states that: "The FHA scheme is unusual because it represents perhaps the only instance of government insurance of consumer loans."[3] Rolf Nugent, Gottfried Haberler and other authors have also considered it in this light.[4] Certainly a preponderant proportion of the loans insured under Title I represented notes signed by home owners to finance the purchase of roofing, siding, painting, plumbing, heating, remodeling and other consumption items. There can be no question that Title I insurance and the whole Title I program of promotion were aimed largely at stimulating what, legalistically, were consumer obligations to finance consumer transactions.

From the economic standpoint, however, the Title I program can hardly be considered a program of consumer credit. From this viewpoint it was rather a system of insurance of producers' credit, or perhaps better, of distributors' credit. It was the lending institution which was insured against loss, not the consumer. It was the manufacturer, dealer, and lender with whom the Federal Housing Administration worked most closely and whom it actually was servicing primarily. It was they in whom the offer of insurance against loss stimulated the first action and only secondarily, through them, were the consumers stimulated to act. At least 80 percent of Title I insured transactions were originated through dealers.

In classical economic theory, even as late as Marshall, the consumer was sovereign. It was the consumer's decision to consume, and to buy what he wanted to consume, that was considered to be critical. But, with the rise of what some have called the "Keynesian revolution," this viewpoint changed. As we have seen, in the theory of Keynes, the emphasis is taken from the decision of the consumer and placed upon the strategic implication of the decision of the producer, the distributor, and the dealer. It was the producer's decision to produce, based on his estimates of the

[2] See Rolf Nugent, *Consumer Credit and Economic Stability* (New York: Russell Sage Foundation, 1939) and Gottfried Haberler, *Consumer Instalment Credit and Economic Fluctuations* (New York: National Bureau of Economic Research, 1942).

[3] Joseph D. Coppock, *Government Agencies of Consumer Instalment Credit* (New York: National Bureau of Economic Research, 1940), p. 2.

[4] See Nugent and Haberler, *loc. cit.*

marginal efficiency of capital, which put income into the hands of consumers. However, in the Keynesian theory, the rate at which consumer incomes flow back to producers through expenditures plays an important role too. For, if the rate of spending is reduced by excess saving, producer's decisions for the next period will be affected. This explains the Keynesian emphasis on the "propensity to consume" and also explains the efforts through Title I to increase the rate of consumer expenditures. Thus we have another significant factor which links Title I to Keynesian economic theory. For the character of Title I as well as its administration apparently were based upon the implicit assumption of the strategic importance of the producer's decision and the producer's action.

On the basis of these considerations we may now attempt a summary of the problems which must be considered in an economic analysis of Title I. The fundamental problem is to discover to what extent the Title I loans insurance activity succeeded in increasing the volume of consumer credit outstandings and to what extent such increases constituted stimulating additions to total purchasing power. Thus, we may be able to arrive at some general conclusions about the amount of stimulation which Title I provided for employment. As part of the larger question it will be necessary also to analyse the extent to which the Title I program served to influence the nature and extent of credit facilities in this field, for changes in the institutional facilities for the granting of consumer credit are closely linked with the volume of such credits and with their stimulating nature. Also in need of analysis is the influence of Title I on credit charges and on maturities, for such factors will shed light, too, on the stimulating nature of the plan.

Since Title I has been in operation for well over ten years under various economic conditions, it will be enlightening to explore its relation to the economic system at different points in the cycle. To the extent that it was stimulating to production and employment, it is evidently more desirable at some points in the cycle than at others and the results of its operation may be different. This will bring us to a consideration of the efficiency of Title I as a system of credit control.

Influence on the Nature of Credit Facilities for Property Improvement

The dominant characteristic of the instalment financing which was available before 1934 for home improvement purchases was the fact that it was offered invariably in connection with a single product. During the 1920's the American Radiator Company, the Holland Furnace Company, the Johns-Manville Corporation, and some others in this field, developed instalment plans for financing dealers' sales. In many cases the financing was carried by the manufacturer. In other cases the manufacturer made arrangements with a sales finance company to carry the paper of his dealers and encouraged his dealers to use the facility. By 1930 the Commercial Investment Trust and the Commercial Credit Company, two of the largest sales finance firms, were actively soliciting this kind of business both through dealers directly and through arrangements with manufacturers. Virtually all of the financing available on items of home improvement came through these sources. Almost none was done by commercial banks or other types of lending institutions.

The Johns-Manville credit plan was available only to the customer of a Johns-Manville dealer who was purchasing one or more Johns-Manville products. The situation was similar in connection with plumbing, heating and other items.

Thus, the credit facilities for home improvement work in the pre-Title I period were spotty and highly compartmentalized on the basis of the interests of various manufacturers.

When Title I loan insurance was projected into this field in June of 1934 it, by definition, aimed at a substantial alteration in the credit facilities for property improvement work. To the extent that the Federal Housing Administration was successful in enlisting the participation of lending institutions in the Title I program it did more than accelerate and enlarge the growth of instalment credit facilities in this field. It is not too much to say that Title I actually provided a new form of credit for purchases of property improvements. The insured Title I loan provided a facility through which the property owner could finance on a single instalment note any of the various products and services which fall in the category of alterations, repairs and improvements. It seems reasonable to conclude that this change in practice facilitated the use of instalment credit for a larger number of the items which make up property improvement transactions and, thereby, provided a condition likely to encourage greater use of instalment financing in this connection.

This is one of the several characteristics of Title I (we shall examine the others later) which provided an inducement for an increased use of instalment credit. As we have noted and as we shall analyse in more detail later, such increases in the volume of consumer credit outstandings can, under certain conditions, constitute stimulating expenditures which will have the effect of increasing production and employment.

Impact on the Volume of Credit Facilities for Property Improvement

Title I also served considerably to enlarge the credit facilities in the field of property improvement. By the end of 1934, 11,945 financial institutions had accepted contracts of insurance under Title I and thus were ready and willing to make loans for property improvement. It must be remembered, of course, that only somewhat over six thousand of these institutions actually made loans under the provisions of Title I. Of the institutions signing up for Title I insurance, 10,029 were commercial banks, slightly over a hundred were finance companies and the remainder were divided among building and loan associations, industrial banks, and miscellaneous institutions.

Finance Companies. The largest part of the instalment credit which has been available for property improvement before 1934 was offered through finance companies. However, the number of financing plans as well as the dealers through whom they were available to property owners were certainly limited.

Shortly after Title I was enacted approximately 100 finance companies were organized by manufacturers in the building industry specifically for the purpose of making Title I insured loans. Some of these finance companies duplicated previously existing facilities. For example, the Johns-Manville Corporation, which previously had been furnishing its own instalment financing plan, organized a separate finance company to purchase notes from its dealers. This was necessary in order to comply with Title I regulations. Similar things were done by certain other manufacturers. However, the largest proportion of the finance companies which were organized to participate in Title I were new companies in fact and, therefore, constituted a net increase in the instalment credit facilities in the field. In addition, it is certainly true that both new and existing facilities were more fully used as a result of the vigorous promotion which followed the enactment

of Title I, and, as a consequence, the financing facilities of each company were offered through a greater number of dealers to the property owner.

Commercial Banks. The impact of Title I on the facilities for property improvement loans offered through commercial banks is easier to identify. Commercial banks had not generally been familiar with this type of financing and only an insignificant percentage had been offering loans of this type before the enactment of Title I. By December 31, 1935, 6,082 banks had made such loans under Title I insurance. The Federal Housing Administration estimated that less than one percent of the commercial banks were either organized or prepared to make instalment loans of this type before Title I was enacted. They estimated, further, that the 6,082 banks making loans as of December 1935, represented 85 percent of the total banking resources of the country. There is no indication of how this estimate was derived and it appears that it was probably too optimistic. Joseph D. Coppock, in his study of Title I made for the National Bureau of Economic Research, estimated that only two-fifths of the commercial banks of the country participated in the Title I plan.[5] However, the large number of commercial banks which did enter the field of instalment lending for property improvement constituted a considerable net gain in the number of facilities available. When it is remembered that the Title I financing services of the typical commercial banks were offered through anywhere from several to a score or more dealers in his community, it becomes clear how greatly the entrance of commercial banks increased the instalment credit facilities available for property improvement.

Title I's stimulation of commercial banks to enter the field of instalment lending for property improvement is a significant accomplishment. Some have felt it to be the greatest accomplishment of Title I. Coppock called this "the principal contribution of FHA."[6] Federal Housing Administrator Stewart McDonald called it "the big thing."[7] The significance of the accomplishment is not limited only to the provision of instalment credit for property improvement. Many commercial banks which received their first experience with consumer instalment lending through Title I went on to expand their consumer credit facilities to other fields. John M. Chapman, in his study of the consumer credit practices of commercial banks, cites the results of a survey made to discover the reasons for commercial banks entering the field of personal lending. He reports that a significant number of the banks questioned stated that their success in handling Title I loans had suggested an extension of instalment lending to other fields.[8] Rolf Nugent states that: "A large part of the subsequent growth of personal lending and instalment financing by commercial banks can be traced to initial experiences with insured contracts for the modernization of homes."[9]

There seem to be several reasons why commercial banks responded so readily to the Title I plan. In 1934 these institutions were experiencing a slack in their traditional business and unutilized reserves were piling up. To those who were looking for substitute outlets for their funds the Title I insurance against loss was attractive. And, while much instalment paper was looked upon with suspicion by bank examiners and other au-

[5] Coppock, *loc. cit.*, p. 28.

[6] *Ibid.*, p. 5.

[7] *Hearings Before a Subcommittee of the Committee on Banking and Currency* U. S. Senate, 74th Congress, 2nd Session, on S. 4212 (March 16, 1936), testimony of Stewart McDonald, p. 7.

[8] John M. Chapman and Associaties, *Commercial Banks and Consumer Instalment Credit* (New York: National Bureau of Economic Research, 1940), p. 23.

[9] Nugent, *loc. cit.*, p. 109.

thorities, Title I paper was quickly recognized by them as a sound investment. The fact that Title I paper could be rediscounted made it a liquid asset. Moreover, the fact that these loans were insured by the federal government against loss and were being encouraged by a great program of publicity, gave them a respectability which other types of personal instalment loans did not possess. In addition to all this, the Federal Housing Administration was instrumental in the passage of enabling legislation in most of the states permitting commercial banks to make loans for longer durations provided they were government-insured. Some of the enabling legislation specifically exempted government-insured loans from the usuary statutes. Uncertainty about whether the usuary statutes applied to consumer loans by commercial banks had previously caused many institutions to be reluctant about this type of lending.

The other types of institutions which participated in the Title I plan were industrial banks, building and loan associations, savings banks and a few insurance companies and credit unions. The volume done by these institutions was relatively small, however, and their participation constituted no significant addition to the facilities for credit in this field.

The substantial rise in the number of financial institutions actively offering instalment credit to property owners undoubtedly tended to increase the amount of instalment credit used for property improvement. Although we cannot identify the exact increase in instalment lending facilities nor the exact amount of additional lending which was done through these sources (we shall examine the total stimulating effect of Title I later) it is certainly clear from what we have seen that Title I was responsible for establishing a condition which was favorable to increased use of instalment credit in the field of property improvement. Authorities generally agree that the institutional development of instalment lending facilities, their standardization and widespread availability, play a large part in stimulating the increased use of instalment credit.

Title I and the Cost of Credit

It is not difficult to gain a fairly accurate general picture of the typical charges for instalment credit made in the field of property improvement before 1934. In 1929 Mr. Milan V. Ayres, Annalist of the National Association of Finance Companies, was quoted as stating that finance charges vary from ten to twenty percent on the credit extended.[10] Dr. William T. Foster, of the Pollak Foundation for Economic Research, was quoted in 1934 as stating that the interest or service charges for instalment credit through finance companies ranged from 15 to 200 percent.[11] These quotations evidently refer to a true interest rate on diminishing balances. Others familiar with finance company practice have indicated to the writer that the charges of finance companies during the 1920's and early 1930's ranged typically from a $6 discount to a $10 or $12 discount. Calculated as a true interest rate on the declining balances these charges would range from slightly less than 12 percent to something under 24 percent. In 1934 the credit plan of the Johns-Manville Corporation provided for a credit charge of one percent a month which amounts to nearly 24 percent interest on the diminishing balances. And Mr. Brown, of that company, testified before the Senate Committee holding hearings on the

[10] N. R. Danielian, "The Theory of Consumers' Credit" *American Economic Review*, (1929), footnote, p. 396.

[11] *Hearings Before the Committee on Banking and Currency*, U. S. Senate, 73rd Congress, 2nd Session, on S. 3603 (May 16-24, 1934), testimony of Arthur J. Gross, p. 184.

National Housing Act that this was a lower charge than that made under any other plan in operation before. Thus, we may infer that instalment financing for items connected with property improvement was costing the consumer as a rule something between 18 and 25 percent interest on the declining balances with the larger concentration in the higher brackets of that range. Bank rates were undoubtedly not that high, but commercial banks were doing little of this type of financing and need not be considered as significant in this comparison.

We have seen that the maximum charge permitted under Title I was one equivalent to a $5 discount per $100 per year. This amounts to an interest rate of 9.72 percent on the diminishing balances if the note is paid in twelve equal monthly instalments. Thus, to the extent that financing of this type was done under Title I after its enactment in 1934, rates were cut over one-half; that is, from 18 to 25 percent down to 9.72 percent true interest. This sharp reduction in rates occurred only, of course, in that portion of the financing which was done under Title I after 1934. Some financing continued to be done outside of Title I insurance by finance companies. But a substantial portion of the finance companies operating in this field used Title I insurance and did their financing under the plan and, of course, most commercial banks used Title I. Thus, it is difficult to escape the conclusion that the Title I plan sharply reduced the financing charges in the field it was designed to serve.

Writers in the field have also been inclined to credit Title I with exercising some downward influence on the rates for consumer instalment financing in general. However, this influence has probably not been too great. In the first place, the volume of Title I loans has constituted a very small percentage of total consumer instalment credit. During the period 1934-1938 the average volume of Title I notes outstanding was somewhat less than $100,000,000 which constituted between 2 and 3 percent of average outstandings of all types of consumer instalment credit in the United States during that period.[12] Secondly, because of the consumer's typical lack of responsiveness to changes in the cost of credit, it is unlikely that Title I's lower rates exercised much leverage on instalment credit rates in general.

Such influence as Title I had can probably be attributed to two factors. First, the plan of government insurance brought many commercial banks into the field of instalment financing in competition with the sales finance companies and other sources of credit. The addition of a large number of these institutions, habituated to somewhat lower rates than finance companies, undoubtedly influenced the competitive situation. The second contribution of Title I to a general lowering of financing rates is to be found in the fact that Title I tended to focus the attention of the consumer on financing charges as such. Much of the advertising and promotion which accompanied the Title I program called the consumer's attention to the fact that this type of government-sponsored financing was available at a new low rate. To the extent that the Title I publicity called to the consumer's attention the differentiation in financing rates (and the possibility of substitution) it certainly can be credited with working in the direction of diminishing the inelasticity of demand and, thereby, increasing the effectiveness of price competition.

If, as we have seen, Title I greatly reduced the cost of instalment credit for

[12] Coppock, *loc. cit.*, p. 6.

property improvement and exerted some downward influence on instalment credit costs generally, what significance does this have for the stimulating influence of the Title I on production and employment? Title I's reduced credit charge probably exercised no significant influence in this connection. As we have seen, the demand for credit is relatively unresponsive to changes in the cost of credit. Thus, it is probable that the lowered cost of Title I credit did not serve as a very great inducement to the increased use of instalment credit. Since consumers undoubtedly respond in some degree to changes in the cost of credit, we cannot discount this factor entirely. However, it is probable that it played a minor role.

Title I and Credit Terms

We can gain an understanding of the nature of the credit terms which characterized the field of property improvement before 1934 by looking at the practices of the companies which made wide use of instalment selling. Under the credit plan offered by the Johns-Manville Corporation obligations involving amounts up to $300 could be repaid in 12 months; obligations of $301 to $400 could be repaid in 18 months; for larger amounts durations up to 24 months were permitted. Most of the credit advanced by Johns-Manville, however, extended for 12 months. For American Radiator, Holland Furnace and others operating in this field typical terms ran from 12 to 18 months. The National City Bank of New York, one of the few commercial banks making instalment loans for property improvement before 1934, permitted terms of 12 months. Most of these contracts called also for a down payment of from 12 to 20 percent. These terms characterized the instalment credit which was available on property improvement. There were, of course, many items on which instalment terms were not generally available.

When Title I was enacted in 1934 it provided for insurance on credit that was considerably more liberal in terms than anything that had been offered previously. Title I provided for no down payment and durations as long as five years. Actually the five-year maximum was rarely used and was later amended. However, about half of Title I loans were made for 36 months, a considerable increase over the practice prior to 1934. The average Title I loan duration was 30 months. In addition, practically all of the loans were made without down payment. In view of the considerable proportion of loans for property improvement which were made under Title I insurance, there can be no question that Title I served greatly to loosen the terms for this type of credit. The typical loan for this purpose before 1934 required a down payment of 12 to 20 percent and extended for 12 months; while the typical loan under Title I required no down payment and extended from 30 to 36 months.

We now turn to a consideration of the effect of Title I on terms for instalment credit in general. We have seen that the consumer is relatively unresponsive to changes in the cost of instalment credit and that, as a result, there is little competitive pressure on credit rates. The contrary is true in connection with credit terms; that is, the down payment required and the length of time over which the contract is allowed to run. The consumer is acutely responsive to the amount of the monthly payment represented by a purchase on instalment terms. Indicative of this is the fact that salemen undertaking to solicit the sale of a consumer good, the cost of which is relatively high, will frequently play down the original cost and stress the low monthly pay-

ment with which the consumer can gain possession of the article. Since a purchase price amortized over 24 months permits a considerably lower monthly payment than one amortized over 12 months, it is easy to see why the consumer will be more likely to make a purchase if terms are long than if they are short. Due to this fact, competition is considerably more effective in connection with contract terms than with credit cost. Thus, it seems likely that Title I's competitive influence on other contract terms was correspondingly more effective. Rolf Nugent stated that Title I "tended to break down the standards with respect to down payment and duration of contracts that were in force in many fields of durable-goods financing."[13]

Contract terms on instalment credit for consumer durable goods certainly tended to be more lenient during the late 1930's than they had been before 1934. It is, of course, difficult to tell how much this loosening of instalment credit terms can be traced directly to the influence of Title I. Certainly there were other factors at work. The trend toward more liberal terms seemed inevitable as manufacturers increasingly used instalment terms as a merchandising device to reach larger markets. But it seems likely that Title I played a significant part in accelerating this trend in several ways. In a market area where competition is highly effective, the large volume of Title I loans, made on easier terms, seems certain to have exerted a direct competitive influence. In addition, the fact that many lenders under Title I made loans for relatively long durations with no down payment and experienced no greatly increased losses, must have done much to convince these lenders that loans of this nature in fields not covered by Title I insurance were feasible. The finance companies, commercial banks and other lending institutions which made loans under Title I also made instalment loans for many other purposes. It seems likely, too, that the large scale promotion of Title I terms had its effect in educating the consumer to expect similar terms for the purchase of other items not covered by Title I-insured loans. The fact that the federal government was sponsoring a consumer loan program involving such relatively liberal terms must have played its part in sanctioning liberality of financing in other fields.

The effect of Title I on instalment credit down payments and loan durations has particular significance with respect to the stimulating nature of the credit. The most substantial effect of a change in credit terms probably comes from its influence on the volume of sales. We know that, in the United States, the number of families in each progressively lower income class increases rapidly until very low incomes are reached. In 1935-36 the largest number of families fell in the $750 to $1,000 annual income class. More than half of all family incomes were between $250 and $1,250 a year, and 92 percent were less than $3,000 a year.[14] For a considerable part of the large number of potential buyers in the lower section of the income pyramid, access to the market at any given time is determined by the credit terms upon which goods can be purchased. This is particularly true of items such as those involved in property improvement on which the cost is relatively great. Thus, a liberalization of credit terms tends to reduce, and a restriction of credit terms to increase the current "cost" of durable goods in relation to income margins available for such purchases. Since these

[13] Nugent, *loc. cit.*, p. 108.

[14] *Consumer Incomes in the United States*, National Resources Committee, (Washington: Government Printing Office) Table 3, p. 18.

families will purchase when attractive instalment terms are available and refrain from purchasing when they are not, we can conclude that a liberalization of credit terms which brings these people into the market will add to the total volume of instalment credit outstanding at any given time. The fact that Title I effected a considerable liberalization of credit terms for property improvement, both with respect to down payments and maturities, means that a considerable group of families could make such purchases who could not otherwise have done so. Thus, it is very likely that the liberalization of terms effected by Title I made possible a real expansion of instalment credit in the field of property improvement.

Changes in instalment credit terms also have another effect on the volume of instalment credit outstandings. We must remember that the stimulating or depressing effects of instalment credit (assuming, for the moment, that the new credits do not represent merely transfer credit) come from changes in the total volume of outstandings. Thus, if total outstandings (new credits less repayments) during any period were to rise the effect would be considered stimulating; while if total outstandings were to fall the change would be considered depressing. With this in mind it is easy to see that a change in credit maturities and down payments would have an influence on the volume of outstandings in succeeding periods. Under liberalized terms total credit will expand during the succeeding period. Under restricted terms total credit will contract during the succeeding period.

Thus, the liberalization of credit terms effected by Title I is likely to change the volume of credit outstandings in two ways: by affecting the volume of sales and by the effect of changed terms on total outstandings during the succeeding periods. We must keep in mind, too, that Title I's influence in this regard not only extended to the instalment credit directly insured but also to credit for other commodities (to the extent that Title I influenced instalment terms generally).

The General Economic Effect of Title I Loans

In the first parts of this article we saw the ways in which FHA's Title I modernization loan program contributed to the establishment of conditions favorable to an expansion of instalment credit in the field of property improvement and, to some extent, for other types of purchases. But increases in the volume of instalment credit do not necessarily mean that stimulating additions have been made thereby to total purchasing power. We shall now attempt to discover to what extent such increases can be considered to be truly stimulating to the economy.

Keynesian theory, to which Title I is evidently linked, holds that an expansion of consumer credit represents a stimulating addition to total purchasing power (and, conversely, a contraction of consumer credit represents a depressing withdrawal) provided such credit expansions are not of the transfer type; that is, provided they are not compensated for by equal withdrawals. Such an expansion of consumer credit, by injecting additional funds into the income stream, increases the receipts of entrepreneurs without increasing their outlays chargeable to costs of production. This increase in the receipts of entrepreneurs must result either in a decline of inventories or in a rise of prices and profits. Since the existence of idle productive factors may be expected to restrain a rise in prices, the increased receipts are likely to be expressed primarily in a decline in inventories and in an increase in production to restore these inventories. In

this way the initial increments tend to be passed on in additional outlays to factors of production in the succeeding period. To the extent that the initial increment is spent or invested by subsequent recipients, the flow of incomes and production will continue at the accelerated pace. This is the "multiplier" principle. It is to be noted, however, that such an expansion of purchasing power will result in a rise in prices if idle factors of production do not exist. If the additional credit is of the transfer type, however, the most that can be said is that demand will rise in some places and fall in others with the result that some industries will be stimulated and others depressed.

Obviously it makes a great difference whether the credit is of the stimulating-depressing or of the transfer type. Credit is of the transfer type if an outlay in one place involves a corresponding withdrawal in another place either on the part of the lender or of the borrower. Let us look first at the supply side. The money flowing into consumer instalment credit may come from hoards or surpluses or be withdrawn from other uses. If it comes from surpluses there will be no unfavorable repercussion on other uses of funds. Due to the extraordinarily liquid conditions which have prevailed in the general money market and among lending institutions during the past decade or more, it seems reasonable to conclude that their willingness and ability to invest in other directions is not impaired by investments in consumer instalment credit. This is particularly true of commercial banks which did such a large proportion of the Title I lending. Their reserve condition has certainly been good during the entire period of Title I activity.

We must now ask ourselves in what way instalment credit influences consumer spending. Obviously consumer expenditure is increased by instalment credit only if it induces consumers to buy more than they could without credit. If consumers could not obtain credit would they buy anyhow using cash or salable assets to finance their purchases? Since a large proportion of instalment debtors —probably more than 90 percent according to the National Bureau of Economic Research[15]—have incomes of less than $3,000 a year and well over half of them have incomes of less than $1,500 a year, there can be little doubt that a large proportion of instalment credit users would not have the possibility of buying from accumulated savings if credit were not available. However, even though they have no savings, consumers might, of course, accumulate funds for the purpose of eventually buying with cash. In this way they might change the timing of their expenditures but they would not be adding to them. Certainly some consumers practice this kind of restraint. But experience supports the conclusion that the majority of consumers without savings do not budget their incomes in such a way as to save up to purchase large items with cash. As Haberler puts it: "Many people are willing, rationally or irrationally, to spend more money for an immediate enjoyment, for which the price must be paid only later and not in a lump sum, than for the same thing if it becomes available only in the future and the price must be accumulated in advance by cutting down expenditure."[16] Even for the minority of instalment debtors who possess savings in one form or another, Haberler thinks it unlikely that many of them make a practice of using their savings in lieu of instalment credit to make purchases of durable goods. Many consumers prefer to retain their assets because they serve as reserves for unforeseen emergencies or because they do not trust

[15] Haberler, *loc. cit.*, p. 41.

[16] *Ibid.*, p. 43.

themselves to replenish their savings after having drawn on them for the purchase of a desired commodity. Thus instalment buying becomes a means by which the consumer forces himself to curtail consumption sufficiently to buy what he needs or desires without dissipating accumulated savings. It follows, then, that the use of instalment credit causes an increase in consumers' expenditures.

Thus, because it did not occasion equal withdrawals on the supply side and because it increased consumer expenditures, we conclude that the additional instalment credit stimulated through Title I constituted an addition to total purchasing power.

An important condition to the validity of this conclusion must be noted, however. The stimulating effects of Title I loans will obviously be significant only if Title I loans did, in fact, constitute net additions to the instalment credit for home improvement. The Title I volume will be of little significance if it represents instalment loans which would have been made through other means even if Title I had not been available. In this case Title I loans would represent transfer credit in another sense than we have used that term above; they would simply represent a transfer of loans by consumers from a less convenient to a more convenient form, or a transfer by lenders from a more hazardous to a less hazardous type of loan. We have analysed this question in earlier sections and concluded that Title I contributed to the establishment of conditions favorable to an expansion of instalment credit in the field of property improvement. From those considerations we are justified in deducing that a large proportion of Title I loans represented instalment loans for property improvement that would not otherwise have been made.

Influence on Total Purchasing Power and on the Building Industry

If the reasoning in the previous section can be accepted, it follows that a large part of the new credits insured under Title I constituted real additions to total purchasing power and were therefore stimulating to the economy while repayments of these loans constituted depressing withdrawals. We shall now attempt to discover the magnitude of the stimulating or depressing effects which can be attributed to Title I lending activities during the first ten years of its operation.

There are three types of series which might be used to indicate the influence of instalment credit movements on economic activity; first, the volume of new credits granted during successive periods; second, the amount of outstanding credit at regular points in time; third, net changes in outstandings from one point in time to another. Gottfried Haberler has analysed the relative merits of these three measures of the influence of instalment credit and concluded:

> "It goes without saying that if we seek a *measure* of the stimulating or depressing force of credit on total consumer expenditure during any interval (any particular month or year) we must use the change in outstanding credit during that interval, in other words, current net credit change (and not the level of outstandings at the beginning, at the end or on the average during the interval)."[17]

He points out, however, that the new credit series is useful in measuring the stimulating effect of instalment credit on a particular industry, especially if the credits were clustered around a few products, as was the case with Title I. The reason for this is that repayments of property improvement credit can be assumed not to encroach upon property improvement sales. Thus, repayments

[17] *Ibid.*, p. 70.

can be disregarded in measuring the effect of Title I on the construction industry and the series on new credits used. However, in measuring the effect of Title I on the total economy we must confine ourselves to the series which measures current net credit change.

The following table gives the new credits insured under Title I, 1934-43, with estimates of year-end outstandings and annual net credit change for the same period.

Taking the figures for Net Credit Change as the indication of the stimulating or depressing force of Title I loans on total consumer expenditure (the figures should be discounted somewhat since, as we have seen, a small proportion of Title I loans probably constituted transfer credit), we note from the table that during 1934, 1935 and 1936 they constituted a stimulating influence on total purchasing power in amounts ranging from 24 to 166 million dollars. However, in 1937 the net credit change was negative in the amount of 129 million dollars and, therefore, constituted a depressing influence on total purchasing power. In 1938, 1939, 1940 and 1941 the effect of Title I loans was stimulating to the economy generally, though not by as much as in the previous years. In 1942 and 1943 the net credit change was again negative and therefore constituted a depressing influence. It is to be noted that the depressing influence of Title I loans in 1937 undoubtedly came largely as a result of the curtailment of insuring operations due to the lapse of the provisions of the Act beginning in April of that year. It was re-established again in February 1938.

Taking the loans-insured series from Table I as the measure of the influence of Title I on the construction industry, we note that Title I's influence on the construction industry was positive, or stimulating, during the entire ten years. We see, too, that the influence of Title I on the construction industry was quantitatively greater during most years than was its influence, both positive and negative, on the economy generally. We must conclude that the difference between the influence of Title I on the construction industry and its influence on the economy generally came at the expense of other parts of the economy or of other industries. This can be explained by the fact that repayments of Title I loans were made, for the most part, as a consequence of withdrawals of expenditures from other types of commodities.

The next question to be considered is the relative importance of these influences. Was the stimulation which Title I provided for the constuction industry relatively large or small? What importance can be attached to the positive and negative influences which Title I had on total purchasing power?

In the absence of statistical data which can be relied upon, we must content ourselves with certain general inferences with regard to the magnitude of Title I's influence on the construction industry. According to rough estimates prepared for the National Housing Agency by the

TABLE I—VOLUME OF TITLE I LOANS, YEAR-END OUTSTANDINGS AND ANNUAL NET CREDIT CHANGE, 1934–1943
*(In Thousands of Dollars)**

Year	Loans Insured	Year-End Outstandings	Net Credit Change
1934....	$ 30,451	$ 24,361	$ 24,361
1935....	223,620	191,077	166,716
1936....	246,150	287,891	96,814
1937....	60,383	157,947	—129,944
1938....	160,181	164,606	6,659
1939....	207,720	233,268	68,662
1940....	250,948	291,856	58,588
1941....	262,085	320,433	28,577
1942....	140,741	229,974	—90,459
1943....	95,447	145,758	—84,216

*** These figures do not include loans insured for new small home construction under class 3 of the National Housing Act. The figures for Year-End Outstandings and Net Credit Change are estimates made by the author and are calculated on the basis of an average loan duration of 30 months. Source: Tenth Annual Report of the Federal Housing Administration.**

Department of Commerce and shown in Table II, total construction expenditures in the United States for 1934 amounted to nearly five billion dollars; the same figure for 1940 was about ten billion dollars. The estimate for total maintenance from the same source was about two billion dollars for 1934 and a little over three billions dollars for 1940. We note from Table II that Title I loans amounted to over thirty million dollars in 1934 and to over two hundred and fifty million dollars in 1940. Thus, we see that the stimulation Title I provided for the construction industry was not of an insignificant magnitude.

It should not be overlooked, of course, that despite the apparent contradiction, in some cases, between the impact of Title I on the construction industry and its impact upon total purchasing power, the very fact that Title I served to stimulate a large unit of the economy like the construction industry would in itself, necessarily, have positive repercussions on the economy as a whole if we are to accept the multiplier principle. Thus, it is possible that the stimulating influence which Title I had on the construction industry in the years 1937, 1942 and 1943 tended to offset the depressing effect that it had on purchasing power generally.

TABLE II[18]—TITLE I LOANS AND ESTIMATED EXPENDITURES FOR TOTAL CONSTRUCTION, TOTAL MAINTENANCE AND NONFARM RESIDENTIAL MAINTENANCE, 1934–1943*
(In Millions of Dollars)

Year	Total Construction	Total Maintenance	Nonfarm Residential Maintenance	Title I Loans
1934	$ 4,992	$ 2,027	$ 968.8	$ 30.5
1935	5,651	2,294	1,048.4	223.6
1936	7,602	2,695	1,223.2	246.2
1937	8,427	2,878	1,343.0	60.4
1938	8,070	2,816	1,237.9	160.2
1939	8,990	2,981	1,337.3	207.7
1940	10,102	3,191	1,451.8	250.9
1941	13,923	3,427	1,548.2	262.0
1942	16,885	3,502	1,442.7	140.7
1943	11,427	3,752	1,329.2	95.4

* The estimates of expenditures for total construction and for total and nonfarm residential maintenance are taken from those prepared for the National Housing Agency by the Department of Commerce.

[18] It should be noted that the series of estimates on total construction, total, and nonfarm residential maintenance are used only to show the relation of these magnitudes to the annual volumes of Title I loans. Because of the manner in which the estimates were arrived at, these figures, considered as a time series, cannot be used as a measure of the influence of Title I loans on the volume of construction or maintenance.

We now turn to a consideration of the quantitative significance of Title I's influence (both positive and negative) on purchasing power generally and upon the economy as a whole. The annual figures which reflect the net credit change attributable to Title I are relatively small, never reaching above 166 million dollars and averaging considerably less than 100 million dollars (Table I) and even these must be discounted somewhat due to the fact that not all Title I loans represented new credits. This average of less than 100 million dollars amounted to between 2 and 3 percent of the estimated average outstandings of all types of consumer instalment credit in the United States during the period. Thus, we see that the impact of Title I on movements of total consumer credit outstandings was quite modest.

On the other hand, it should not be forgotten that net credit change is subject to the multiplier effect; that is, its total influence, direct plus indirect, through successive re-expenditures of the sums involved, will be greater by several times than the original sums. Thus, while Title I's contribution to net credit change was relatively small it probably exercised an influence out of proportion to its size.

Title I as an Instrument of Credit Control

Since it is clear that Title I represented a deliberate governmental attempt to influence the level of activity in the construction industry and in the economy generally, we now turn our attention to a

consideration of the meaning of Title I's influence at different points in the cycle. Has Title I accomplished worthwhile results in regard to cyclical stabilization? What are its strengths and weaknesses as an instrument of cyclical control?

It has been demonstrated statistically by both Haberler and Nugent[19] that general instalment credit fluctuations move with the cycle. These writers have discovered that instalment credit outstandings increase during the cyclical upswing and decrease during the cyclical downswing. This is undoubtedly due to the fact that use of instalment credit is normally influenced by changes in incomes during different phases of the cycle, by psychological states of optimism and depression and other factors which characterize the cycle. But, because of the positive influence which instalment credit exerts, it also serves to intensify cyclical changes, accentuating booms and deepening depressions. As Haberler has has put it: "It operates as a resonator or amplifier of fluctuations set up by other forces."[20] If this is correct, we must conclude that economic stability would be promoted if cyclical fluctuations in instalment credit outstandings were less violent or if they were anticyclical rather than cyclical. It also follows that a federal policy such as Title I, involving control of instalment credit outstandings, must have as its objective either the stabilization of instalment credit movements or the inducement of an anticyclical movement.

To what extent did Title I meet these requirements? We have seen that Title I's influence on total purchasing power as measured by net credit change was positive in 1934, 1935, 1936, 1938, 1939, 1940 and 1941 while it was negative during 1937, 1942 and 1943. These movements of Title I outstandings showed no great tendency to stability, but they did demonstrate some anticyclical tendency. During 1934 and 1935 the level of economic activity was low and needed stimulation. Thus, the stimulating influence of Title I during these years can undoubtedly be called desirable in terms of economic stability. During 1936 the level of economic activity was rising gradually to the peak experienced in 1937. Therefore, it is likely that a policy aimed at stabilization would have dictated that some leveling off of Title I credit was desirable in 1936. The depressing influence of Title I credits during 1937 may be considered to be in the right direction. It should be noted, however, that this depressing influence resulted more from the fact that Title I lending activities were discontinued by Congress than from any conscious anticyclical management on the part of the Federal Housing Administration. During 1938 and 1939 the influence of Title I was positive when stimulating influences were needed. But by 1940 or early 1941 the economy was again experiencing a boom, this time an artificial boom brought on by the devotion of a large part of the country's productive facilities to war production. However, during 1940 and 1941 the influence of Title I continued to be stimulating despite the fact that such stimulation was no longer needed. It was only in 1942 and 1943 that the influence of Title I became negative. And, as we have observed, this curtailment of Title I lending came from the restrictions on credit terms and down payments imposed by the Federal Reserve Board under Regulation W.

The significant thing to be noted here is that under conditions of subnormal economic activity, such as those which existed in 1934 and 1935, and again in

[19] See Nugent, *loc. cit.*, Chapter VIII, and Haberler *loc. cit.*, Chapter 5.

[20] Haberler, *loc. cit.*, p. 134.

1938 and 1939, the influence of Title I was in accord with what would be expected of a federal policy designed to stabilize instalment credit. In 1940 and 1941, during the period when the war boom was beginning, and during 1936, Title I probably represented unwise federal policy because it remained a stimulating force when stimulation was no longer needed. As we have seen, under conditions approaching complete utilization of the factors of production, a further increase in instalment credit outstandings will be inflationary; that is, it will result in an increase in prices without a corresponding increase in production. It is significant also to note that during the years when Title I constituted a depressing force it was due to the influence of outside factors (in 1937 to the discontinuance of the Act by Congress, and in 1942 and 1943 to the restrictions of the Federal Reserve Board) and not to any influence which can be construed to be an inherent part of the Title I plan.

The same is true of Title I's influence on the construction industry. During the years when stimulation was needed the influence of Title I (which was continuously stimulating to the construction industry) was in accord with a rational federal policy. During those years when the construction industry did not need stimulation, possibly in 1937 and certainly in 1940 to 1943, the normal operation of Title I continued to be stimulating and, therefore, was not in accord with a policy of credit stabilization.

Thus it appears reasonable to conclude that the Title I plan was essentially a stimulating instrument which did not work effectively in reverse. It is not difficult to see why this was the case. Title I was conceived in a period when the economy needed stimulation. The plan evidently was designed to provide stimulation. Stimulation could be expected from all of the basic elements of the plan: the longer maturities and the elimination of the down payments, the improvement and standardization of the credit facilities in the property improvement field, the increase in the number of institutions actively offering the credit and, of course, the extensive promotion campaigns which accompanied it. It is evident that this fact was understood by Congress and by the Federal Housing Administration. For the plan was originally enacted for a limited period as an emergency measure and was re-enacted from time to time for equally short periods. On at least one occasion the Federal Housing Administration recommended that Title I be discontinued, only to have it re-enacted by Congress largely at the behest of the construction industry. But despite this, the fact remains that the plan was reenacted and it has continued in operation almost continuously since 1934. If our analysis is valid, we must conclude that during periods of high economic activity the influence of Title I has worked against economic stability and not toward it.

It would seem that if Title I is to continue as a permanent form of federal activity some method should be devised to alter its influence during the upswing and the peak of the cycle. During these periods the influence of Title I should be depressing (negative net credit change), or at least its influence should be neutral (zero net credit change). This might be accomplished by a restriction on the number of loans insured, by a reduction in the amortization period of loans insured, or by an increase in down payments. This has never been attempted under Title I and it is difficult to estimate the success which such efforts would have. That instalment credit outstandings can be reduced by reductions in maturi-

ties and increases in down payments has been demonstrated by the operation of Regulation W of the Federal Reserve Board. The difficulties of incorporating credit restrictions into the Title I plan spring from the manner in which Title I has been administered and the nature of the relationships which have been established with lenders and with the building industry. Title I has sought and gained a striking amount of support from lenders, materials manufacturers and dealers precisely because it offered a service which coincided with the interests of these groups and because it did not seek to control or inhibit their activities or profits. Title I has depended for its success on its ability to induce the voluntary cooperation of these groups. If Title I were to institute credit limitations designed to reduce its outstandings during boom periods, it would be required necessarily to impose restrictions which worked, during parts of the cycle, against the profit interest of these groups. It seems likely that such negative control measures would jeopardize the relationships which Title I has been at such pains to develop with these groups and thereby would reduce the enthusiasm with which they would support the plan during the periods when credit stimulation was desired. It is also possible that lenders, being under no compulsion to participate, would drop out of the plan during restricted periods and extend more liberal credit without the assistance of the insurance.

It seems probable to the present writer that such dual objectives could not be effectively accomplished through Title I. However, the operations of Title I have demonstrated that a small segment of consumer instalment credit can be stimulated and that such stimulation can be accomplished at times when economic activity generally is depressed. Title I has the limitation that it works more effectively when stimulation is needed than when stabilization or depressing effects are called for. But in this connection it is interesting to note, as Haberler has pointed out, that credit controls, such as those exercised through Regulation W, are more effective in checking a credit expansion and forcing a contraction than they are in arresting a contraction and inducing an expansion.[21] The reason for this is that a maximum down payment percentage and a minimum maturity cannot be enforced as effectively as a minimum down payment and a maximum maturity. That is, the volume of credit cannot be forced up against the wishes of the parties concerned by enforcing liberal terms, while it can be forced down by enforcing severe terms. The use of more liberal terms and smaller down payments cannot be enforced, it must be solicited or "sold." And that is precisely how it was accomplished under Title I. Thus, it would appear that the appropriate methods for credit stimulation involve use of salesmanship and promotion (Title I) while the appropriate methods for credit limitation involve regulation and control (Regulation W).

It would appear that a broad federal policy of credit stabilization might properly include a device like Title I, expanded to include other types of credit, for purposes of stimulation, as well as a device like Regulation W for purposes of credit limitation. Since these two devices involve quite different kinds of relationships with lenders and dealers, it would seem likely that the two functions would be performed by two different agencies of the federal government, though a considerable amount of coordination would be necessary.

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[21] *Ibid.*, p. 164.

Sweden Plans Its Housing Policy

By HARALD DICKSON*

SWEDEN has made the improvement of the quality and adequacy of its people's housing the cornerstone of its new national housing program. Like most nations, Sweden has a housing shortage at present. But, unlike many nations, Sweden is not centering its attention merely upon overcoming the present inadequate number of dwelling units. It is attacking the long-run problem of providing better, less crowded housing.

Three major objectives are involved in the housing program: the elimination of the present shortage of housing units; the attainment of higher space and quality standards; and the stabilization of the house building industry over a long period of years so that it will not intensify "cyclical" fluctuations of business in either the boom or depression directions.

Swedish Housing Since 1939

A brief summary of the facts of the Swedish housing situation since 1939 is essential to full understanding of the proposals made by the Social Housing Committee.[1] During the late 1930's there was a boom in the Swedish house building industry. In 1939 the number of completed dwelling units reached an all-time record of 45,000.[2] As a result there was an increase in the number of vacant units. Some decrease in the rate of house building probably would have followed 1939 even if the war had not broken out. But the war caused a more rapid decline in house building than would have occurred otherwise. Less than 14,000 units were completed in 1941, which was fewer than during the bottom year of the depression, 1933.

In 1941 a housing shortage began to develop and in 1942 a rigorous rent regulation was introduced. Money incomes continued to increase, and also the number of families increased rapidly. Therefore the housing shortage grew worse and worse.

But the government had done more than merely suppress rent increases. It had taken positive steps to encourage building, and in 1942 these measures began to show results. Their effects were reinforced by further aid in building inaugurated in 1942.

Increased building began in 1942. In 1944, 39,000 dwelling units were constructed and since then (up to 1947) the annual construction has approximated 40,000 units a year.[3] The government's expectation is that the annual production will soon increase to between 45,000 and 50,000 units annually. If this expectation is realized, the housing shortage will be overcome by 1950 or 1951. This means that the demand for housing would be met and also there would be a vacancy ratio of about 3 percent. Material shortages and the need for other types of buildings may retard the housing program but the housing shortage will probably be eliminated by the early 1950's.

* University of Stockholm; Research Associate, University of Wisconsin Housing Research Project.

[1] This article draws heavily upon the final Report of the Social Housing Committee (a Royal committee, the Bostadssociala Utredningen), Part I (December 28, 1945) and Part II (April 28, 1947), and upon the Government Propositions to the Riksdag, No. 235 (April 18 1947) and No. 259 (April 25, 1947). Hereinafter, these sources will be referred to as "Part I," "Part II," "Prop. 235," and "Prop. 259," respectively.

[2] All production figures used in this article refer to places of approximately 1,000 or more inhabitants.

[3] Prop. 235, p. 8.

Future Housing Production

This poses the question: What will happen to the house-building industry when the housing shortage is relieved? This question is particularly important because the rate of increase in the number of families is declining and probably will continue to decline through the 1950's. In the absence of any special government measures to maintain the rate of house building, production will probably drop below half of its present level and much of the construction industry now employed in house production will be free for other kinds of real investment.

Whether this will be a good thing or not will depend upon the general state of business activity at the time. There may be a sufficient demand for building material and labor for purposes other than housing to absorb whatever production capacity will have been set free, but it is by no means certain that this will happen. The sudden decline in the house production could press the nation toward a depression or make a depression already started more serious.

Because of these possibilities, there is general agreement that the government should be prepared to take steps to keep production of houses at a high level. This policy can be justified, obviously, from a pure business-cycle viewpoint. But the Swedish government's intention to keep up the present level of house production until at least 1960 is motivated, primarily, by a determination to improve the quality of housing in Sweden, regardless of whether or not part of the capital and labor in the house building industry could find employment in other types of construction.

The concepts upon which the government's plan is based are: (1) The housing standard of the Swedish people is low in proportion to their standard of living in other respects and should be raised rapidly; and (2) Sweden can afford to raise the housing standard at a rate which corresponds to a constant house production; for the total real national product presumably will increase and a constant house production will mean that the whole increase of the national product can be used for other purposes than housing.

The motivation of the government plan is not of a purely economic character. Subsidies will be necessary to create a housing demand which corresponds to the contemplated rise in the housing standard. These subsidies are regarded as being worth while from a social viewpoint because of the favorable effect on the physical and mental health which will result from a rise in the housing standard.[4]

Prospective Improvement of the Housing Standard

Let us now try to answer the following question: What can be accomplished in raising the national level of housing if house production is kept at its present level? Previously, I have used the number of completed dwelling units as a measure of the production level. A more adequate measure might be the total number of rooms produced. The government plan is to keep the production on a level of between 150,000 and 160,000 rooms a year, up to 1960. The number of rooms per dwelling unit will increase and the number of units produced per year will decrease. Dr. Alf Johansson has furnished an example of what the development in the communities might be:[5]

	1946–50	1951–55	1956–60	1946–60 *Total*
Rooms produced per year	157,500	160,000	152,000	
Rooms per dwelling unit	3.5	4.0	4.0	
Units per year	45,000	40,000	38,000	
Units per 5-year period	225,000	200,000	190,000	615,000

[4] Part II, pp. 61-63.

[5] Cf., Part I, p. 371.

About 50,000 units will be required for covering the shortage existing at the beginning of 1946. How the remaining 565,000 units would be used depends in part upon the increase in the number of households in the communities, which in turn depends, among other things, upon the rate of economic development. The Social Housing Committee has made estimates for two extreme alternatives.[6] In the depression alternative, the increase would be 234,400 units for new households: in the prosperity alternative, it would be 406,600. Dr. Johansson, in his example, assumed 330,000 units to be needed for new households. Under this assumption, 235,000 (565,000-330,000) units would remain for balancing demolition. The normal demolition rate would dispose of about 75,000 units in the 15-year periods. This would leave 160,000 units to be demolished as a result of a "directed clearance" and to be replaced by new and better housing.

The most serious deficiency in Swedish housing has been *the crowding*. Before the war, it was worse in Sweden than in the United States. If we define a dwelling unit as "crowded" when there are more than 1.5 persons per room, *inclusive* of kitchen, then 5.8 percent of the occupied units in the urban areas and 11.1 percent of the occupied units in the rural nonfarm areas of the United States were crowded in 1940.[7] The corresponding percentage for Swedish communities exclusive of Stockholm exceeds 15% in 1939.[8]

In Sweden, crowding is usually defined in another way. The minimum standard, below which a unit is regarded as crowded, is not more than 2 persons per dwelling room, *exclusive* of kitchen.[9] For units of kitchen plus 2 or 3 dwelling rooms (3 or 4 rooms), this minimum standard is not more than 1.5 persons per room. In either case a unit is regarded as crowded if there are 5 or more persons living in 2 dwelling rooms plus kitchen, or if there are 7 or more persons living in 3 dwelling rooms plus kitchen. But for units of 1 dwelling room plus kitchen (2 rooms), the Swedish minimum standard is a little more rigid. According to that standard (but not according to the United States' standard of not more than 1.5 person per room), such a unit is regarded as crowded if there are 3 persons living in it, for example, a family of husband, wife, and one child. In 1939, out of all occupied units in Swedish communities exclusive of Stockholm almost 10 percent were made up of units of kitchen plus 1 dwelling room in which 3 were living.[10] These units were crowded, according to the standard of not more than 2 persons per dwelling room exclusive of kitchen but not according to the standard of not more than 1.5 persons per room inclusive of kitchen.

If we disregard all households of 1 or 2 persons and count only the dwelling units where 3 or more persons were living we find that no less than 41 percent of the units were crowded in 1939 in the sense that they did not meet the minimum standard of "not more than 2 persons per dwelling room exclusive of kitchen."[11]

It is the government's intention that such crowding shall be eliminated by 1960. According to estimates made by Mr. Per Holm, this implies that the demand for dwelling units of kitchen plus 1 dwelling room will decrease by almost 140,000 units during the period

[6] Part I, pp. 318 f.

[7] U.S. Census 1940, Housing, Vol II, Part I, Table 10.

[8] No exact figures have been available to the writer. However, Part I includes Tables (pp. 282, 285) upon which estimates can be based. If kitchenette (*kokvra*) is counted as a room, the percentage is between 15 and 16. If kitchenette is not counted as a room, the percentage is about 18.

[9] Part I, p. 368,; Part II, p. 31.

[10] Part I, p. 282.

[11] Part II, p. 32.

1946-1960.[12] This does not mean that almost 140,000 units of this type have to be completely demolished during this period, for in some cases it is possible to conjoin two such units into one larger unit.[13]

On the other hand, units which have to be demolished are often located in structures which also include units of other types. These units may have to be demolished along with those of the "kitchen-and-1-dwelling-room" type. If the housing market develops according to Dr. Johansson's example mentioned above, 235,000 dwelling units will be available for demolition during the period 1946-1960. It seems evident that more than half of this number of units will have to be demolished because of the decrease in the demand for units of kitchen and one room.

In the elimination of overcrowding, improvements in city planning can be accomplished at the same time. Though pronounced slum areas of the type found in some of the larger cities of the United States hardly exist in Sweden there are conditions which are unsatisfactory from a city planning viewpoint. The Social Housing Committee mentions the following types of deficiencies:[14] too intense utilization of the land; mixing of industrial and residential areas; lack of parks, playgrounds, shops, and localities for cultural purposes; and traffic difficulties.

The number of dwelling units located in areas which should be cleared has been estimated at 200,000 by the Social Housing Committee. Though it is not necessary to tear down all the dwelling units in these areas there are many units outside these areas which will have to be torn down. In addition to the kitchen-plus-1-dwelling-room units which should be demolished there are other units which will be condemned by the health authorities because of technical deficiencies, and some of these units are located outside the areas to be rebuilt in the interest of better city planning. The total need for clearance is estimated by the committee at more than 200,000 units.[15] The number corresponds approximately to the 235,000 units which will be available for demolition according to Dr. Johansson's example.

Loans and Subsidies

If we want to abolish crowding, it is not enough to produce dwelling units of adequate sizes. They must be made available at costs which make the families willing to buy or rent units of at least minimum size. For this purpose the Social Housing Committee in December 1945 proposed a system of subsidies and cheap government loans. To a large extent this system has been put into operation and is described in the three following sections.

Financing Multi-Family Housing

Sweden has no mortgage insurance system of the FHA type. The national government contributes to the financing of multi-family housing by giving so-called tertiary loans on top of first and second loans given by private institutions.

The mortgages which are securities for primary and secondary loans are prior to those against which tertiary loans are given. Thus the government takes the top risk except for that taken by the equity holder, if any.

On July 1, 1946, new rules were put in force for tertiary loans for multi-family houses. The interest rate, which had been lowered from 4.5 to 4.0 percent in 1945, was lowered to 3.0 percent.

[12] Part I, pp. 318 f; Part II, p. 32.

[13] Cf., Part II, pp. 63-68.

[14] Part II, pp. 43-48.

[15] Part II, p. 69.

Maximum permissible loan-value ratios differ for the three following kinds of entrepreneurs:

(1) A non-profit corporation, association, or foundation which cooperates with and is supervised by the municipality and is recognized as a social housing organization[16] by the State Building Loan Bureau. Such an organization or a municipality may borrow up to 100 percent of the project value according to the appraisal of the State Building Loan Bureau. The 100 percent includes, of course, the non-government primary and secondary loans. They may, for example, be composed as follows: primary loan, 60; secondary loan, 15; tertiary loan, 25 percent. The tertiary loan cannot amount to more than 30 percent of the value. Previously the maximum ratio of loans to value was 95 percent instead of 100 percent.

(2) A non-profit cooperative housing organization which is not recognized as a social housing organization but is operated under a control which the State Building Loan Bureau regards as satisfactory may borrow up to 95 percent of the value.

(3) Other types of enterprises (so called *private enterprises*) may as a rule borrow only up to 85 percent, but the State Building Loan Bureau is entitled to make exceptions and extend the limit to 90 percent. Previously, 90 percent was the rule.

Thus, in 1946 the loan limit was extended from 95 to 100 percent for municipalities and social housing organizations and, as a rule, it was reduced from 90 to 85 percent for private enterprises.

The principles of amortization also were changed in 1946. For municipalities and social housing organizations the principle of constant amortization was adopted. Since the amortization is constant until the loan is paid back and the interest decreases with the balance of the debt, the total annual debt outlay decreases. The reason for this arrangement is the experience that maintenance costs usually increase with the age of the structure and that this increase ought to be compensated by a decrease in the debt outlays. For stone structures (brick, concrete, etc.,) the tertiary loan is amortized in 40 years. For wood structures it is amortized in 30 years.

For other types of enterprises, the amortization system equals that for municipalities and social housing organizations with the exception that there is an extra amortization of 1.5 percent of the original loan in each of the first six (originally the first ten) years.

Thus, private enterprises are less favored than are municipalities and social housing organizations both as to loan limit and as to amortization. These differences are motivated by the fact that the public control of the private enterprise is less strict than the public control of the municipalities and social housing organizations. The restricted loan limit and the more rapid amortization aim to make impossible an undue "milking" of the properties which could cause losses on the loans. But, of course, they also make it more difficult for private enterprises to compete in rental housing with the other housing enterprises.

Under the 1946 rules, the government may also grant a subsidy called a *subsidiary loan* in communities where the rent level is so low that there is a risk that production would cease without this subsidy. These places are classified in four groups; each with a different level of subsidy. Within a group the subsidy is computed according to the dwelling unit area. As a rule, one fourth of the sub-

[16] The Swedish term is *allmännyttigt bostadsföretag*, and the literal translation is "housing enterprise useful for the public."

sidy must be paid by the municipality. The reason for calling the subsidy a "loan" is the provision that it may have to be paid back if the rents increase in the future. In the first part of its final report the Social Housing Committee declared that this kind of subsidy should be a temporary provision. In the long run it would not be a sound policy to maintain an artificial difference as to rent level between different communities.[17]

Experience under these 1946 rules for tertiary and subsidiary loans seem to have been something of a disappointment to the State Building Loan Bureau and to the government. It has taken more time than was expected for the municipalities to start housing projects or to put social housing organizations into operation. At the same time the private enterprises have shown less interest in using the state tertiary and subsidiary loans. One reason for this lessened interest seems to be the expectation that the rent level will rise.[18] Since the tertiary and subsidiary loans are combined with rent control until they are completely paid off, entrepreneurs see in them a barrier to taking advantage of a rising rent level, and consequently consider it more advantageous to finance the projects without state assistance.

Since the housing production of the municipalities and the social housing organizations is too small, the government wants private enterprises to build. But it is anxious to keep over the private enterprises the control inherent in the tertiary and subsidiary loans. Therefore the government proposed, in April 1947, some changes which aim at encouraging private enterprises to use these loans. According to this proposal, the loan limit of 90 instead of 85 percent would be less the exception, and the extra amortization of 1.5 percent would be limited to six years instead of ten.[19] These amendments were put in force on July 1, 1947.

Building costs have continued to increase since July 1946, when the rules on tertiary and subsidiary loans became valid, but the government seems to have decided not to let this fact result in a higher rent level. Instead of allowing higher rents it provided that the subsidy loans be extended to practically all places in the country. This change became valid July 1, 1947.[20]

Financing Single- and Two-Family Housing

The present system of loans and subsidies to single- and two-family houses is rather complicated and irrational. The government proposed that the eight different kinds of loans and subsidies be replaced by only one kind of *home loan*, part of which is free from interest and amortization and therefore is a subsidy. This new loan system has been approved by the Riksdag and will go into effect on July 1, 1948.[21]

To qualify for the new home loans, a rural housing unit must have at least two rooms plus kitchen and an area of about 650 square feet. In the communities each unit must have at least 3 rooms plus kitchen and an area of about 750 square feet. The reason for this difference as to minimum space standard is this: If a family in a community wants a unit of only 2 rooms plus kitchen, it will be able to find such a unit in a multi-family house; but in the country this opportunity usually will not exist. As a rule, there has to be running water, central heating and bath in the houses to qualify for the loans.

For units which meet these minimum requirements but do not have an area of

[17] Part I, p. 453 f.

[18] Prop. 235, pp. 117 f.

[19] Prop. 235, p. 132.

[20] Prop. 235, p. 130.

[21] Prop. 235, pp. 61-71, 132 f.

more than 1,300 square feet, the following rules are proposed: The home loan from the state has to be secured by a mortgage of not more than 90 percent of the approved cost. A part of the loan corresponding to 50 percent of the cost is at first free from amortization. Nothing is decided about the future amortization of this part when the loan is granted; the way in which it shall be paid does not have to be determined for 25 years. Out of the part above 50 percent, 4,000 kronor ($1,111) for single-family houses and 6,000 kronor ($1,667) for two-family houses are free for all time not only from amortization but also from interest. This part of the loan constitutes a so-called *capital subsidy*. However, under certain conditions it is possible that the government will require that this part of the loan will have to be paid. The balance is to be amortized in 25 years and the interest rate is 3 percent.

Suppose, for example, that the approved cost of a single-family house is 30,000 kronor. Then the home loan is 27,000 kronor. Out of the home loan, 4,000 kronor (about 13 percent of the approved cost) is a capital subsidy. 15,000 kronor (50 percent of the approved cost) is at first free from amortization. The remaining 8,000 kronor have to be paid off within 25 years. The amortization of the 15,000 kronor which are at first free from amortization will presumably start when the 8,000 kronor are paid back.

For units of more than 1300 square feet, the rules are the same except that the limit is 75 percent instead of 90 percent, and there is no capital subsidy. Exceptions can be made for families with many children. If an area of more than 1300 square feet is regarded as necessary for a decent space standard, the same rules with regard to loan limit and capital subsidy can be applied.

These proposed rules will decrease the annual costs of single- and two-family houses, and may increase the proportion of single-family houses in Sweden.

Family Housing Subsidies

It would be excessively costly to give a general housing subsidy large enough to decrease rents to a level where every family would demand a sufficiently large dwelling unit. It is necessary to differentiate according to the needs of families. Statistics show a high correlation between crowding and the number of children, and point to number of children as a basis for the subsidy policy. If we classify the families by the number of children below 15 years, we find the following percentages of crowded units in cities outside of Stockholm in 1939.[22] (A unit is regarded as crowded, if it does not meet the minimum standard of not more than 2 persons per room exclusive of the kitchen.)

Number of Children	1	2	3	4	5 or more	*All Sizes*
Percent of Crowded Units	43.9	45.9	68.5	75.6	89.8	48.0

Obviously this correlation between crowding and number of children suggests advantages in a subsidy differentiation according to the number of children and, on July 1, 1948, the loan subsidies described in the two preceding sections will be supplemented by family housing subsidies. Technically, it is impossible to provide a satisfactory space standard for all families immediately. Therefore, some kind of selection has to be made.

According to the figures above, the percentage of crowded households is not much larger among the 2-children families than among the one-child families (45.9 as compared with 43.9) but, on the whole, it is apparently more important for a 2-children family than for a one-

[22] Part I, p. 286.

child family to get at least 2 dwelling rooms in addition to the kitchen, which is the common minimum standard for those two types of family. Therefore the Social Housing Committee and later the government have proposed a limitation of the subsidy for the time being to families of at least 2 children.[23]

Family housing subsidy will be given only for units of certain minimum standards. Units in multi-family houses must have at least 2 dwelling rooms and kitchen and an area of at least 540 square feet and they must be equipped with central heating and bath. For units in one- or two-family houses, the standards are the same as for capital subsidies connected with home loans. The units must also be located where there are favorable possibilities for children's outdoor activities.

The size of the subsidy is determined in the following way: Families in multi-family houses will get a subsidy of 130 kronor ($36) per child per year. (As has been mentioned above, one-child families do not get any family housing subsidy but a 2-children family gets 260 kronor, a 3-children family 390 kronor and so on.) For families in single- and two-family houses, the subsidy equals 20 percent of the annual interest and amortization during the first year, but is not less than 130 kronor and not more than 175 kronor per child per year.

There is an income limit for the family housing subsidy, but that limit rises with the number of children. For families of 2 children the subsidy is not granted if the taxable income (i.e., the assessed income after deduction of the tax-free income which presumably corresponds to a minimum standard of living) exceeds 4000 kronor ($1,111) a year; for larger families the limit will be higher. A family with 5 children below 16 years of age can get a family housing subsidy even if its taxable income equals 7000 kronor ($1,944) a year. Examination of the income will be made only every fifth year, and a family will not lose its subsidy unless the average taxable income of the last five years exceeds the limit.

[23] Part I, p. 490; Prop. 235, p. 105.

Clearance and Reconstruction

The loans and subsidies described will direct housing demand from unsatisfactory old units to new adequate units. They will depreciate the values of low-standard old properties and tend to make clearance advantageous for owners of such properties. But the owners may not be able to finance the substitution of new structures for the old ones. Further, a radical reconstruction of a whole neighborhood may be profitable for the owners as a whole while isolated improvements of separate properties would not be remunerative. Consequently, desirable clearance may not take place as a result of private initiative. Again, in many cases it is desirable to reduce the density of population in a large area. Such a change usually will decrease land values in that particular area but, according to the principle of shifting value, may increase values by about the same amount in other areas. Such a decrease of density might never be carried out without public initiative.

According to the proposals of the Social Housing Committee and the government the local governments will be regarded as responsible for the housing in the municipalities, which responsibility includes clearance investigations and proposals. These plans will be made in close cooperation with a central clearance agency, and after completion they will be submitted to that agency. The committee recognizes that unless the planning is started quickly, lack of plans may be the

bottle-neck in the whole housing policy. Some municipalities have already made plans voluntarily in cooperation with the State Building Loan Bureau.

When the plans are made, the next problem is to have them carried out. In some cases the plan may provide only that the clearance shall be carried through when the owners want to do it. In other cases the municipalities will have to acquire the properties and carry through the clearance themselves or by means of social housing organizations.[24] If a municipality requests the national government that it be allowed to buy properties through condemnation, a private owner will be able to avert condemnation by assuming an obligation to carry through the clearance within a certain time. Or the owners in the area may form a clearance association and assume such a responsibility.

Clearance will have to be carried through by the municipality in many cases because it would not be remunerative in a private economic sense. In some areas, particularly in Stockholm and Gothenburg, the population density is now excessive. Large parts of the residential areas of those cities are "stone deserts" made up of apartment houses built in closed blocks. Such areas are not suitable for families with children, and the Committee wants to have most of this housing replaced so that there will be a lower density of population. Such changes would cause losses to private owners which would not be regarded as fair, and the State and the municipalities have to assume those losses. The loss that the public has to take in such a case (*clearance cost*) is defined as the appraised value of the old properties (the *gross land cost*) minus the value of the land, according to the new plan.

[24] When the Committee uses the word "clearance" (the Swedish term is "sanering") it means both demolition and reconstruction. (Part II, pp 19f.)

The gross land cost depends upon the way in which the old properties are appraised. Investigations made by the Social Housing Committee indicate that the prices at condemnation usually have been considerably higher than the normal market values. The sellers have profited at a cost to the public, and the Committee has tried to find a way to avoid this practice. It has found that assessed values usually conform to the sales values. Therefore, it proposes that the condemnation value may not differ more than 20 percent from the assessed value unless the condemnation board is unanimous.

The value of the land, according to the new plan, depends not only upon the city plan but also, among other things, upon the anticipated rent receipts from the new properties. This raises the question: How shall the rents be fixed when the properties are owned by the municipality or by a non-profit social housing organization? It seems reasonable that, after the housing shortage has been eliminated, rents be adapted to what people are willing to pay because of the more or less desirable location. The committee also declares that it "considers it natural and inevitable that the rents (land values) in a community be differentiated according to the more or less central location of the properties."[25] However, it does not seem to be quite clear on this point. It "does not find it appropriate in connection with a clearance which is supported by the public authorities to permit variations in rents and land values of the size for which the market situation of 1939 gave room."[26] And it wants to have the rents fixed in accordance with a "fair land value,"[27] a concept which is not adequately defined.

[25] Part II, p. 228.

[26] Part II, p. 234.

[27] The Swedish expression is "skälig tomtkostnad," Part II, p. 236.

The Committee presents some reasons for its opinion about the rents in the cleared areas. One of them is an idea that a rent determination according to the principle of "the highest possible market rent" could, by way of building costs, spread also to the production in the outskirts so that the general rent level could get a tendency to increase."[28] For my own part I do not understand this relationship, and no explanation is given by the Committee in its report.

Another reason that the Committee wants low rents in the cleared areas is that they want to make it possible for many households with low rent-paying ability to continue to live there after they are cleared. To live in the renovated area may be more important for some of those families than for other households with greater purchasing power who would win in the competition for the new dwelling units if the market were free.[29] This social viewpoint certainly deserves attention, but it would be much cheaper to give special subsidies in cases where subsidies really are needed than to give a general subsidy to all tenants in the area in the form of an unnecessarily low rent level.

The committee proposes a subsidy called land cost contribution, which would cover the clearance costs.[30] The main portion of this subsidy comes from the municipality and the state contributes only a so-called *clearance contribution*[31] which would equal ¼ of the total clearance cost except that it would not exceed 20 kronor per square meter, that is about 50 cents per square foot, of dwelling area.[32] As a rule, the clearance contribution would be granted only for clearance projects which are undertaken by municipalities or social housing organizations.[33]

For the balance of the land cost contribution the municipalities would be entitled to a clearance loan from the state at an interest rate of 3 percent and an amortization period of 50 years.[34] For interest and amortization of the clearance loan, the municipalities would have the right to collect a special so-called depreciation charge from properties in the municipality. The receipts from this charge would be allocated to a clearance fund. The municipalities would not be allowed to use these funds for any other purposes than clearance and reconstruction of the communities.

The depreciation charge would increase with the age of the property. During the first 10 years of the life of a property, there would be no charge at all. From the 11th to the 40th year, the charge would be one-half of the so-called normal charge. From the 41st to the 60th year it would equal the normal charge. After the 60th year it would equal twice the normal charge.[35]

The Committee gives two reasons for making the depreciation charge increase with the age of the property. First, loan amortizations are usually arranged in such a way that debt service outlays decrease when the properties become older and, therefore, properties usually can afford to pay more when they are older.[36] Second, if the charge is higher for older properties, then the net yield and the value of older properties decrease in such a way that clearance is stimulated.[37]

The municipality would determine annually the size of the *normal charge* within the limits 0.04 and 0.2 percent of

[28] Part II, p. 229.
[29] Part II, pp. 203, 229.
[30] The Swedish term is "tomtkostnadsbidrag." Part II, p. 225.
[31] The Swedish term is "saneringsbidrag." Part II. p. 225.
[32] Part II, p. 249.
[33] Part II, p. 252.
[34] Part II, p. 254.
[35] Part II, p. 262.
[36] Part II, p. 261.
[37] Part II, p. 261.

the assessed value.[38] The committee points out that the significance of such a charge for the properties would be small.[39] However, the significance for the economy of the municipality would also be small and, therefore, it might be better to finance the clearance loan interest and amortization by regular municipal taxes instead of making the system more complicated by introducing the depreciation charge.

Conditions change, and the city plans which will be carried through in the nearest 10 or 15 years may to a large extent turn out to be inadequate later. In order to make a further reconstruction of the communities possible without incurring unnecessary extra costs for clearance, it is important that the municipalities do not sell the land which they already own or which they acquire in connection with the clearance. The committee recommends that the long-term land lease be used to a larger extent than hitherto. The most usual lease term is 60 years.[40]

Since most of the land is privately owned, the Committee proposes the following supplementary arrangement in order to make future reconstruction cheaper. When a building permit is given, it shall include the provision that, after 75 years, the owner either will have to rebuild the property according to the city plan which is then valid, or will have to sell the property at a price which is determined according to certain rules. As to buildings which already exist, the term of the building permit shall be limited to 75 years from the date when the proposed law comes into force.[41] This provision will make the depreciation more rapid so that future clearance costs are lower.

Public Housing Agencies

Finally: a few words should be said about the public agencies which will have to handle the future housing policy. During the war, the State Building Loan Bureau under the leadership of Dr. Alf Johansson became the most important central agency for the Swedish nonfarm housing policy. It granted tertiary and subsidiary loans and, in connection with this activity, exercised a great influence upon both the quantity, the quality and the price of new housing. The Bureau cooperated directly with municipalities.

The Social Housing Committee proposes that the Building Loan Bureau be reorganized into a central housing administration with a state housing office in each county.[42] The housing administration would continue to cooperate directly with the larger municipalities, but the county offices would be intermediary between the Administration and the smaller municipalities and the countryside. The county offices would decide all questions except those which refer to multi-family houses, which would be handled by the central housing administration upon recommendations from the county offices.

The county offices would be important from a planning viewpoint. Only the larger municipalities can afford an organization adequate for planning. The need of the smaller municipalities for such assistance would be met by the county offices.

On the whole, prospects are good. Not only will the present housing shortage probably be eliminated within a few years, but the standard will be raised considerably with regard to space, equipment and city plans. It is true that there will be difficulties. Among other things, the shortage of city planning experts is serious. But in this case at least, a somewhat deficient planning is better than no planning at all.

[38] Part II, p. 262.
[39] Part II, p. 261.
[40] The Swedish term is "tomträtt," Part II, pp. 306-312.
[41] Part II, pp. 293-305.
[42] The Swedish term is "län." A "län" is usually larger than an American county.

Only Caucasian: A Study of Race Covenants

By JOHN P. DEAN*

THE restrictive covenant is under attack as the leading device by which race ghettos are legally maintained in America. Yet few reliable data have been offered to document its prevalence. The oft-quoted statement of an unsigned article in *Crisis* that "in Chicago it has been estimated that 80 percent of the city is covered by such agreements" has received wide currency and has begun to acquire the ring of validity. But it has been "estimated," too, by a reliable executive of a New York title company, that a study of race covenants in the New York area would disclose "not more than a handful." Both could be right. Both could be wrong. To fill this gap, the study here reported was undertaken.

The restrictive covenant becomes a vehicle for racism when property owners in a neighborhood agree not to rent or sell their property to Negroes or other ethnic minorities. Widespread use of the restrictive covenant limits the housing available to Negroes and condemns them to the overcrowded dwellings of "black belts." There the evils of residential segregation multiply into the evils of separate stores, separate restaurants, separate schools, and separate public services—not equal and seriously too few. Since the inadequacy of these institutions becomes identified with the inadequacy of the people themselves, expansion of the restricted group to new areas of residence is seen as a threat to neighborhood character and property values. If white residents begin to abandon the old neighborhood in numbers, the threat may become reality. As a result, black belts usually expand by sudden and expulsive accretions to their borders when the bonds that restrain them can no longer hold back the rising pressures of overcrowding. Each subsequent inundation confirms anew the prejudices that caused it.

Thus any restraint forbidding Negroes from moving into new non-segregated areas needs careful scrutiny to judge its prevalence and ultimate repercussions on property values, race tension, and social injustice. Recent statements say that the increasing segregation of Negroes in Northern communities has developed with the spread of race covenants. But since informal discrimination and depressed economic status achieve segregation too, there has been doubt about the specific role of race covenants—especially since no one has known how extensive they are.

The present study investigated the prevalence of race covenants in over 300 recent suburban developments in 3 counties of the New York area: Queens County, Nassau County, and Southern Westchester County—the leading outlets east of the Hudson for Manhattan's crowded population. A large title company in the New York area, estimated to handle roughly a quarter of the title business in Queens, Nassau, and Westchester, agreed to let the author examine the title reports summarizing the encumbrances disclosed by searching the title, including any covenants and restrictions on the property at the time of the search. All subdivisions of 20 parcels or more (and, for comparison, an additional 132 developments of less than 20 parcels) were checked for the period since the war and for the period of extensive prewar building of the late 1930's and early

* Research Fellow, Social Science Research Council.

1940's.[1] In most instances a copy of the covenants and restrictions, if any, was attached to the title report. If not attached, the official volume and page where the covenants were on record in the County Register's Office was noted and checked for restrictions on race. Several title reports were checked for each development. In almost every instance—309 out of 315—all properties in the development were either uniformly free of race restrictions or uniformly covered by them. A few race covenants may have been missed (1) where the parcels sampled were free of them but those not selected were restricted, or (2) where the race covenant agreements were imposed *after* the dating of the title report. Insofar as this was the case, the figures given here understate somewhat the extent of race restrictive covenants.

How prevalent are race restrictive covenants? In the 315 recent developments in Queens, Nassau, and Southern Westchester surveyed in the study, race covenants applied to few small developments; but they were frequent on the large-scale building operations. Only 8 per cent of the developments with less than 20 homes were restricted against Negroes, compared with nearly one-half (48%) of the subdivisions of 20 homes or more. And among large developments of 75 properties or more five-sixths were race restricted (Table I). No less than 56 per cent of all homes checked were forbidden to Negroes. The proportion rises to 63 per cent for properties in developments of 20 or more houses and to 85 per cent for homes in subdivisions of 75 or more. These figures suggest that in the larger subdivisions where new properties are numerous enough to create their own new neighborhood, race restrictions are considered necessary to guarantee the uniform racial character of families moving in and to maintain uniform occupancy thereafter. But where just a handful of houses are constructed in an already-built-up neighborhood, interlocking friendships, mutual loyalties, and existing social pressures can be depended upon as an adequate barrier against Negroes.

TABLE I—RACE RESTRICTIVE COVENANTS IN SUBDIVISIONS DEVELOPED DURING THE LAST DECADE IN QUEENS, NASSAU, & WESTCHESTER COUNTIES, BY SIZE OF SUBDIVISION

	Size of Subdivision							
	Less than 20 Parcels		20 to 74 Parcels		75 or More Parcels		Total	
	No.	%	No.	%	No.	%	No.	%
Subdivisions with race restrictions	11	8%	52	37%	35	83%	98	31%
Subdivisions without race restrictions	121a	92%	89b	63%	7c	17%	217	69%
Total	132	100	141	100	42	100	315	100
Approximate No. of Parcels (d)	1300		4800		5200		11,300	

(a) One subdivision of 6 parcels had a race restriction on one parcel.
(b) Four of these subdivisions had racial restrictions on som e but not all of the parcels.
(c) One of these subdivisions had race restrictions on only a few parcels.
(d) For 17 subdivisions for which accurate information on the number of parcels was unavailable conservative estimates were made. These subdivisions are not included in Table II.

Is the use of race covenants increasing or decreasing? Unfortunately, we cannot tell from the data of this study. As shown in Table II, a higher proportion of the properties in prewar than in postwar subdivisions are race restricted. But many of the postwar developments have not been completed,[2] and restrictive covenants are frequently imposed *after*

[1] Discussions with executives of the company disclosed no reason to believe that the developments covered in the title searches of this company were in any way unrepresentative of the properties developed during the period covered by the study.

[2] Most of the postwar developments in Queens and Nassau were still making up title reports for individual properties and on many subdivisions no title closings had been made. At least 10 subdivisions averaging 45-50 parcels had indicated their completed size would average about 200 homes.

TABLE II—PROPERTIES RESTRICTED AS TO RACIAL OCCUPANCY AS A PER CENT OF TOTAL PROPERTIES, BY SIZE OF SUBDIVISION AND WHETHER SUBDIVISION WAS DEVELOPED IN THE PREWAR OR POSTWAR PERIOD

	Prewar (a)	Postwar (b)	Total
Total Parcels on which data available.....	6,827	3,726	10,553
Parcels restricted as to race.....	4,432	1,481	5,913
—as % of total parcels.	65.0%	39.7%	56.1%
Parcels in subdivisions of 20 or more parcels, restricted as to race.....	4,343	1,449	5,792
—as % of all parcels in subdivisions of 20 parcels or more.....	71.6%	45.2%	62.5%
Parcels in subdivisions of 75 or more parcels restricted as to race.....	2,921	1,082	4,003
—as % of all parcels in subdivisions of 75 parcels or more.....	86.7%	81.1%	85.1%

(a) Subdivisions developed 1938 to 1942 in Queens and Nassau counties, 1935 to 1942 in Westchester County.
(b) 1945 to 1947 subdivisions, many of which are still in process of development.

completion, either by including them in the deed when the purchaser takes over or by filing in the Register's Office a declaration of covenants and restrictions that affects all subsequent transfers. Thus the race restrictions found on postwar subdivisions represented for the most part instances where the land was laid out or partially developed before the war and the restrictions imposed at that time. Some few of the larger operative builders had already made postwar declarations of restrictive covenants, but others, we can safely assume, will impose covenants and restrictions at the time of closing title. For this reason, too, the figures here reported understate the extent of race covenants. Their prevalence is best judged by the 71.6 per cent of homes in prewar developments of 20 homes or more which carry race covenants.

The rapid spread of race covenants within the last decade is attested by other data which drew increasing attention as the study proceeded:

(1) Subdivisions with covenants imposed prior to the 1930's rarely were restricted as to racial occupancy, even though otherwise protected with restrictions on residential character similar to those contained in covenants today.

(2) The influence of the Federal Housing Administration on race restrictions began to stand out with embarassing clarity. Covenants with those special building and occupancy restrictions associated with the FHA house almost invariably included a race clause. Wording parallel to the recommendation of the 1938 FHA *Underwriting Manual* that restrictive covenants include a "prohibition of the occupancy of properties except by the race for which they are intended",[3] was found in a number of race clauses:

"Said [premises] shall be maintained for the use and occupancy of persons of the Caucasian race, and no race or nationality other than those for whom the premises are intended shall use or occupy any building or lot."

"It is intended that the said premises are restricted to the use and occupancy of the Caucasian race only . . ."

In some cases the FHA was identified in the preamble to covenants as one of the reasons for the restrictions imposed:

"Whereas the Federal Housing Administration requires that the existing mortgages on the said premises be subject and subordinated to the said restrictions . . ."

or again, in another:

"Whereas the parties hereto desire to modify, add to and amplify the said restrictions in

[3] Sec. 980 (3). Under pressure, the FHA has deleted from its recently-issued postwar revision of the *Underwriting Manual* direct references to "incompatible racial and social groups," "inharmonious racial groups," etc., (it speaks instead of "user groups"). And the manual no longer recommends the use of race covenants. Despite this change in official wording, local FHA offices will undoubtedly continue to approve race restrictive covenants wherever their use is firmly established.

conformity with the requirements of the Federal Housing Administration . . ."

And finally, race covenants are more frequent among the large operative builders who require financing assistance and use the FHA guarantee to secure building loans. Note for instance:

"Whereas . . . [names of owners] . . . in order to better secure their mortgage by the development of said tract into 1-family houses and to better promote the sale thereof, are willing to subordinate and make subject their lien of their said mortgage to the restrictions required by the Federal Housing Administration as hereinafter set forth . . ."

In these instances where the FHA was mentioned, race restrictions were included. Restrictive covenants, once crystallized as an aid to financing and mortgage stability, spread and become legion. Just as it became common practice around the turn of the century to impose restrictions against any slaughter house, brewery, or manufactory of gunpowder or glue, so the race clause is becoming customary among restrictive covenants today. This practice casts a long shadow on the trend toward large-scale building operations. One builder consistent in the use of race covenants is identified by *Architectural Forum* as "for 25 years one of Long Island's most prolific housebuilders." His past and present building program involves 11,300 dwelling units—the equivalent of a city of 40,000 to 45,000 people.

How much variation is there from one development to another in race restrictions? In the New York area, race covenants are aimed primarily at Negroes. Sometimes they are identified positively in the covenants as "negroes or any persons of the negro race of blood" (sic) or perhaps as "persons of African descent who are not of the Caucasian Race." More often the restricted group extends beyond Negroes to include all "non-Caucasians" or "persons of any race other than the white or Caucasian race." Or the covenant may designate only those permitted:

"No house shall be used or occupied except by white people."

"Said premises are restricted to the use or occupancy of the Caucasian race only."

In most developments, the race covenants apply only to the use or occupancy of dwellings. Our courts have generally upheld covenants against use, while those against the sale or alienation of property have often been ruled out. Nonetheless, many a restrictive covenant in the New York area aims to restrain both ownership *and* use:

"No plot or part of plot or building thereon shall be owned or occupied by any other than the Caucasian race."

"No part of said premises shall ever be used or occupied by or sold, conveyed, leased, rented, or given to persons other than of the Caucasian race."

In all cases except one (an oversight?) a loophole was left for servants:

"This covenant shall not prevent occupancy by domestic servants of a different race domiciled with an owner or tenant."

TABLE III—Subdivisions of Twenty or More Parcels With Race Restrictive Covenants, by Location in Queens County, Nassau County, and Westchester County, N.Y.

	Subdivisions in Queens County, N. Y.		Subdivisions in Nassau County, N. Y.		Subdivisions in Westchester County, N.Y.		Total	
	No.	%	No.	%	No.	%	No.	%
Subdivisions with race restrictions	36	45	28	47	23	52	87	48
Subdivisions without race restrictions	44a	55	31b	53	21	48	96	52
Total	80	100	59	100	44	100	183	100

(a) Three of these subdivisions have race restrictions on part of the parcels.
(b) Two of these subdivisions have race restrictions on part of the parcels.

"This covenant shall not prohibit the engagement or maintenance of colored servants or domestics in the family household."

Where the covenant wished to plug all loopholes, an expanded version such as the following was used:

"No plot or part of any plot or building thereon shall be occupied by any person other than of the Caucasian race, nor shall be sold, leased, conveyed, or rented in any form or manner by any title legal or equitable to any person other than those of the Caucasian race, nor to any firm or corporation of which any person or persons other than those of the Caucasian race shall be a member, officer, or stockholder." (Domestic servants are then excepted.)

Despite occasional individual variations such as this, most race clauses took on a rather standardized form which, with minor deviations in phrasing in each of the three counties surveyed, runs as follows:

"No race other than the Caucasian race shall use or occupy any building or lot, except that this restriction shall not prevent occupancy by domestic servants of a different race employed by an owner or tenant."

Variations in wording such as these suggest that the restrictive covenant device, once understood and practiced—and sanctioned by the courts—will spread from one group to another in a network of discriminations that call forth inter-group hostility. Already race covenants in different parts of the country have excluded Chinese, Japanese, Jews, Indians, Mexicans, Persians, Syrians, Armenians, and even a Seventh Day Adventist. The form of a 1946 covenant imposed on a development of 200 homes in Westchester County suggests that all these groups and others, too, will be excluded:

"No portion of said premises shall be conveyed or in any way transferred, and no land and improvement thereon shall be let to any person or persons by any owner thereof without the written consent of the company to such conveyance, transfer, letting or subletting."

With devices such as this coming into use against minorities, we can expect conflict to intensify between Caucasian and other-than-Caucasian races. At a time when the darker skinned peoples all over the world are coming alive with population growth, nationalism, and technological skill, it is surprising that the one-third of the world's population represented by Caucasians do not anticipate their shrinking status as an ethnic minority.

Reports and Comments

Two Commentaries on *Anatomy of Depreciation*

THIS volume on the subject of accounting for retirement, or so-called "depreciation," by the late Luther R. Nash was prompted by the 1943 and 1944 reports of the Committee of Depreciation of the National Association of Railway and Utilities Commissioners (herinafter called NARUC). It is an excellent discussion of the subject by an engineer of over fifty years' experience as designer, builder and manager of large utility properties who was an active participant in the work of the Edison Electric Institute Committee on Depreciation and author of many articles and books on this subject.

While the writer is in full agreement with the presentation of Mr. Nash, he feels that the book would have been strengthened by expanding the last three chapters and supporting the argument by presenting statistics from Federal Power Commission publications.

The policy of that Commission has been clear since 1942 and 1943 as is shown by its own publications and by the 1943 report of the Committee on Depreciation of NARUC. It is definitely stated on page 51 of the *Annual Report* of the commission for the year ended June 30, 1946. That policy is there stated as follows:

"The Commission has established certain policies relative to depreciation.

"(1) Consistency in determination of annual depreciation and accrued depreciation, that is, *the use of the same basis for both the annual charge and the deduction from investment for determination of the rate base.*

"(2) The computation of depreciation on the original cost or investment rather than on fair value of the property." (Italics inserted)

Unfortunately Mr. Nash did not present statistical exhibits to combat this policy, as it was well known long before it was officially announced.

The book is a strong argument for the reserve plan approved by the Edison Electric Institute for the retirement of units of property, sufficient to meet current and prospective retirements, but limiting the credit balance within maximum and minimum percentages of total investment in plant, to be fixed from time to time, with commission approval, as the history of retirement costs, the character, age or condition of the property, economic developments or legal requirements indicate that a change is desirable.

The eight chapters deal with Early Accounting History, Retirement Accounting, the Straight Line Method, Service Lives, Interest Methods, Reserve Size Method, Treatment of Reserves, and a final chapter on Relative Advantages of Available Methods. The author defines so-called depreciation accounting as "an orderly method of providing for the retirement of property" and also "prefers to think of accrued retirement liability instead of depreciation." He emphasizes the fact that accounting deals with costs and that considerations of value are restricted to other proceedings than those of providing proper accounting rules.

The chapters of special interest in the book are the one on Retirement Accounting and the two closing chapters. The finding of *depreciation* a physical condition of operating property which impairs capacity for service is purely an engineering problem, a determination of fact, and is not discussed in the book.

The author points out the fact that the first uniform systems of accounts of 1922 of NARUC were the joint work of selected representatives of commissions and utilities; that it was decided that the purpose of these particular accounts was to provide for retirements, not depreciation, and quotes from the text, in part, as follows:

"The losses which this account is intended to cover are those incident to important retirements of buildings, of large sections of continuous structures like electric lines, or of identifiable units of plant or equipment . . . ."

These early accounting regulations had weaknesses that were serious and abuses followed. One weakness was that there was no requirement that, regardless of earnings, there must be strict observance of rules for annual charges to expense for the reserve as approved by the commission. A second was the failure to provide maximum and minimum limits to the reserve. The years while this classification was in effect, 1922-1934, were years in which there were enough cases of financial abuses through pressure of holding companies for payment of dividends to support the criticism of the system by straight-line advocates in the federal agencies.

During those years, as shown by Mr. Nash (Table I), in the seventeen companies used as an illustration, the total credit balance, in per cent of total plant, increased from 8.93% in 1922 to 10.85% in 1934. Under the new classification providing straight-line reserves, it rapidly increased to 20.04% in 1943. Federal Power Commission statistics show an increase in the credit balance for all Class A and B power companies from 10.8% in 1937 to 21.2% in 1945.

The chapter captioned Reserve Size Method is worthy of most careful study. The author traces its development during the years 1936-1944, years when it was under study by the Committee of the Edison Electric Institute; he then explains the method, refers to the book, *Depreciation Accounting Applied to Public Utilities*, by Samuel Ferguson and discusses size of reserve, accrual formula and adjustment of life estimates.

The objective of any form of "depreciation" accounting should be a reasonable method of charging the cost of plant consumed in service to operating expenses, and therefore, of course, to the customer. The size of the reserve should vary greatly, depending on the size of the property, its age and maturity; and the maximum reserve in per cent of plant cost should be quite large on small, static properties serving a small area or a single city, while on far-flung properties with many generating plants there is no need for maintaining large credit balances.

Mr. Nash's discussion of these reserves is of great interest. He cites and quotes a Wisconsin Commission of 1923[1] which provides for the crediting of interest for the use by the company of reserve capital exactly comparable to the payment of interest on a funded debt.

Chapters VII and VIII summarize the author's conclusion and criticisms of the report of the NARUC Committee on Depreciation. Both chapters are well done and are worthy of careful study. This volume should be on the shelf of every engineer and manager interested in the subject. While the writer is in full accord with Mr. Nash's thesis, he thinks that some subjects that are dismissed with a paragraph or two should have been expanded substantially.

In the chapter on the Straight-Line Method Mr. Nash does not discuss the excessive estimates of depreciation due to the inclusion of such maintenance costs as the renewal of poles, rail, ties and other component *items* of major operating *units*, such as transmission or distribution lines of telephone or power companies and other similar property. When one, or several, poles are destroyed by fire, flood, ice storms or decay, they must be replaced immediately in order that the transmission line, the unit of service of continuing life, can maintain uninterrupted service. The renewal of the pole is pure maintenance, an operating expense comparable with the renewal of a railroad tie or a broken wheel on a locomotive. The *unit* to be retired is the transmission line, whose cost is known and which performs a definite service. Maintenance charges to operating expense of the cost of its component parts as they decay or are destroyed, keeps the unit of property functioning to its full capacity indefinitely.

Mr. Nash makes reference to the belief of regulatory accountants that the credit balance in the reserve should appear as a deduction on the asset side of the balance sheet and thus conform to the accounting practice of unregulated industry. He favors the present practice of carrying the reserve as a liability but does not discuss the subject at length.

There is no similarity between the water works, telephone, power and gas utilities, each of which furnishes a single service which must be continuous and unregulated industry. These utilities have made our present-day great cities and very high buildings possible. The interruption of those services would make city life impossible. They must continue to give constant service under rates controlled by commissions.

[1] Duluth St. Ry. Co. (Wis.) P. U. R. 1923 D, 705-737.

Industry	Balance Sheet Percentages			
	Property Plant and Equipment	Material, Supplies, Work in Progress Goods on Hand	Investments, Funds, Current Assets	Total
Eight large manufacturing corporations: Steel, Motors, Auto Parts, Drugs, Dairy Products, Soap and Tobacco	37.01	29.79	33.20	100%
3 Major Railroads	55.07	2.55	42.38	100%
4 Class A Electric Power	88.70	1.80	9.50	100%
Water Works, 60 Cities	87.75	0.87	11.38	100%

Manufacturing and commercial corporations are under no obligation to continue in business; their rates are competitive and constantly fluctuate as economic conditions change.

The major investment of the utility corporations is in plants, built to render only one service and incapable of change to any other service. Industry has relatively a much smaller investment in plant and substantial investment in materials and supplies of manufacture, work in progress, finished goods on hand and current assets.

A recent study made by the writer comparing balance sheet percentages, all utility reserves transferred to the asset side and deducted, showed the figures tabulated above.

That this study was made of properties large enough to be fairly representative is indicated by the figures below.

This writer is of the firm conviction that the retirement reserve of regulated public utilities should be carried on the liability side of the balance sheet. It reflects money paid for service, owned by the company but set aside to reimburse the company for future retirements as they occur. It is not working capital. If invested temporarily in new plant, or otherwise used by the company, the reserve should be credited with the same amount of interest as would be paid for new money. Money in the reserve not used by the company should be invested. The corporation should be always in position to account for every dollar of the reserve. The writer's studies in recent years have convinced him that unregulated, unrestricted "straight-line" reserves furnish a temptation to conceal large earnings and to secure hidden profits.

The statistical reports of the Federal Power Commission give data for all Class A and B power companies which show growth of plant, excessive growth of the credit balance in an industry which is technologically much more mature than it was prior to 1930, and which clearly show the evident intention of some of the federal officials to destroy the industry by deducting the credit balance in finding the rate base. The figures for two years are interesting. (See next page)

Thus in eight years, while investment was increasing 639 million dollars, the rate base

Industry	Combined Investment	Depreciation Reserve	Per Cent
8 Manufacturing Corporations	$4,289,078,343	$2,646,422,320	51.17%
3 Major Railraods	4,055,578,587	1,238,094,177	30.5 %
4 Electric Power Corporations	1,654,080,046	351,722,055	21.27%
Waterworks Properties	164,740,369	21,271,512	12.91%

Year	Total Utility Plant	Credit Balance	Per Cent	Commission's Rate Base
1937	$13,851,503,000	$1,495,250,000	10.8	$12,356,253,000
1945	14,490,782,000	3,064,918,000	21.2	11,425,684,000

under the commission's stated policy, was decreasing 930 million dollars to a figure more than *three billion dollars* below actual investment.

During the last seven of these years the commission's figures show that the number of customers increased 4,016,760, or 16.7%; sales of energy increased 88,286,261,000 K.W.H., or 76.6%; kilowatt hour sales per customer increased 50.1% and revenues from sale of energy increased 44.1%, *with a steadily decreasing revenue per K.W.H. sold.* These figures do not indicate a depreciated or depreciating utility. They certainly support Mr. Nash's analysis in the last two chapters, which would have been strengthened by the use of statistical proof.

The arguments presented by Mr. Nash in the last two chapters are sensible and sound. Excessive charges to operating expenses need to be checked. Mr. Chief Justice Hughes said in the Lindheimer case[2] in discussing these same charges, "Charges to operating expenses may be as important as valuations of property. Thus excessive charges of $1,500,000 to operating expenses would be the equivalent of $25,000,000 in a rate base." The interest at 3% on the credit balances shown in the Federal Power Commission reports from 1937 to 1945 would exceed one year's interest on over nineteen billion dollars, or over 570 million dollars. The analysis of these reports, by companies, discloses several with very excessive reserves. Such an analysis shows the widest kind of variations in practice.

Such reserves undoubtedly are essential but, on the great far-flung power and telephone properties of today, the history of over thirty years of regulated accounting would seem to indicate that maximum reserves of from 10% to 15% of plant cost have been ample, while on the very small properties serving a single community that limit may well exceed 50%.

[2] 282 U. S. 133; 75 L. ed. 255.

No subject is of more vital importance to the utility corporations. Mr. Nash's volume is *most* timely.

HENRY E. RIGGS

Chicago

Ghosts

THE title of the book is suggestive that the author had hoped to strip the depreciation problem of its superficialities. At least, I for one, approached it with the high expectation of discovering that he had laid to rest forever some of the misconceptions of it that have persisted for the past forty or more years. I am sorry to say, however, that he has only succeeded in the perpetuation of some of those ghostly misunderstandings rather than in their interment.

The book is divided into eight chapters. The first is groundwork devoted to the early days of accounting for depreciation. The next two chapters are devoted to an analysis of the pros and cons of accounting for depreciation by the retirement and straight-line methods. Following this analysis he proceeds to present successive chapters on Service Lives, Interest Methods, Reserve-Size Method, Treatment of Reserves, and a final chapter devoted to a comparative summary of the several methods. Throughout the book, one sees a dominant purpose, namely to brand the 1943 and 1944 reports of the Committee on Depreciation of NARUC as unsound and unworkable.

At the outset the author proposes a simple definition of depreciation, or to be more precise, a simple difinition of depreciation accounting. It is "an orderly method of providing for the retirement of property." This, he asserts, is consistent with the definition of the American Institute of Accountants. He concludes his section on definitions by substituting the phrase "accrued retirement liability" for the more orthodox phrases, "accrued depreciation," and "reserve for

depreciation." The reason for his preference will be seen presently.

Nash's fundamental thesis is a complete rejection of the position of the Committee on Depreciation of NARUC, and its strong recommendation for straight-line accounting designed to recover the cost of assets during the period of their service. Of course, Nash finds it difficult to defend the rejected retirement reserve method with its almost inevitable understatement of the depreciation reserve, although he casts nostalgic glances toward it. In fact, his own proposal is but a refinement of it, although this he would probably deny.

Nash chooses to champion the depreciation theory of the Edison Electric Institute, referred to in his book as "reserve-size method." As originally proposed, "it was intended that there should normally be uniform credits to a stable reserve but increasing or decreasing credits as the reserve was near its lower or upper limits respectively, and that a formula might be used for that purpose." Later refinements by the author include a formula for its computation, partial reliance on service-life data where obviously available, interest credits to the reserve for depreciation, and the use of an "undepreciated rate base," in valuation proceedings. Thus his preference for the phrase "accrued retirement liability."

In his concluding chapter (pp. 199-205) he summarizes the advantages of the reserve-size method to be: (1) reliance on factual records of retirement costs, property growth and reserve-size, to the extent that past experience will probably be duplicated in the future; (2) establishment of a reserve size conforming to existing retirement liability; (3) avoidance of excessive reserves which become involuntary contributions to capital; and, (4) automatic adjustment in amount of annual charge to depreciation (called "annuities" by Nash) "by use of a moving average of the basic data." The author appears to realize that this method of depreciation might lead, as did its earlier and simpler theory, to understated reserves for depreciation. Consequently, he proposes "continuous regulatory supervision over the size of the reserve and the process of its maintenance, adapted to each particular company."

As I have indicated, Nash rejects the proposal of the NARUC Committee on Depreciation for accounting by straight-line based on estimates of service life. He finds this theory defective on two counts, namely, that "the service lives of many kinds of units now in use are not known with useful accuracy," and that "straight-line reserves have been found to exceed actual depreciation where they have existed long enough to disclose their full effects."

My objection to Nash's presentation is his persistent oversight of the fundamental nature of depreciation. As has been so well stated in the monograph of the Wisconsin Public Service Commission, entitled *Depreciation, A Review of Legal and Accounting Problems*, and in in the 1943 and 1944 *Reports* of the NARUC Committee on Depreciation, depreciation is based on the simple but irrefutable fact that all assets are limited in their lives, and that they must eventually be retired from use. The causes of that retirement, although important in the computation of depreciation debits and credits, in no way modify this fundamental principle. Thus, the accounting problem is to recover in some equitable manner during the service life of an asset, the total cost incurred in making it available for use. In view of this principle, then, it is easy to see why the NARUC Committee chose to speak of depreciation as loss of service life, and to devise ways and means of discovering that life and the allocation of costs of assets to the several accounting periods over which the estimated life would extend.

As I have set forth in my text on *Public Utility Economics*, (pp. 326,7) depreciation is but a name for one type of cost of doing business. To claim that these costs are difficult to allocate to the several accounting periods involved is no excuse for ignoring their fundamental nature.

If public utility ventures had lives of specified periods, no one would doubt that during that period rates would be fixed so as to recover not less than the sum of the costs of doing business, *including the cost of all capital goods* (less salvage) *dedicated to the enterprise*. In short, assets in a balance sheet are but prior payments of costs to be recovered in subsequent accounting periods, and the accounting process is but the orderly method of absorbing in each accounting period a proper portion of such cost. The fact that the typical public utility enterprise of today looks as if it would last forever in no way vitiates this conclusion. The installed cost of a generator estimated to have a twenty-year life is but the sum of twenty years of

operating costs that are properly chargeable against those customers served by it during years. The fact that we may be uncertain as to its estimated life does not set aside this principle, even though it may complicate our computations. Furthermore, the fact that we can't agree on a single method of recovery —some prefer straight-line, others prefer the compound interest method, while still others prefer sinking fund—in no ways denies the basic fact that the entire installed cost of each and every asset should be charged against those who are served by those assets, and the full sum recovered prior to their respective retirement dates. I happen to go along with the NARUC Committee on Depreciation in choosing straight-line, but I also concede the propriety of the use of other methods, *provided*, they are based on the above premises. Of course, Nash would reply that I am unrealistic, that I could not if I tried, get accurate estimates of service lives, that straight-line builds up excessive reserves, that I am guilty of substituting "the slide rule and comptometer . . . for individual regulatory attention and judgment." (Shades of the ghosts of *Smyth* v. *Ames* and Justice Butler in the first Indianapolis water case, both of which were presumably laid to rest by the Pipeline and Hope cases!) Yet Mr. Nash does great damage to his own position when he accepts service life as a factor, where available. Actually, then, as we get more and more experience, he may be forced logically to the acceptance of straight-line.

Finally, one argument used by the opponents of all scientific methods of depreciation such as those advocated by the NARUC Committee is to charge that they accumulate unnecessarily large reserves. Nash, for example, says (p. 197): "Excessive reserves, such as the straight-line method has commonly yielded, involve an unnecessary element of cost characterized in the Lindheimer case as 'capital contribution'." Earlier, he speaks of the "added cost reflected in the higher rates which customers must pay as a result of the use straight line based on shortest probable asset life."

There is nothing whatever in the straight-line method whereby excessive reserves must be accumulated. Therefore, only two possible explanations can be offered for such excesses as may be found. One is error in estimates of service life and the other is cupidity of management or stupidity of regulation. If it be the first, obvious corrections can be made as better data become available. If it be the second, I fail to see why management has a complaint. The *fact* is that the older theory of depreciation (such as the retirement reserve method used by electrical utilities before they were forced to abandon it), had it been possible to carry it to its logical conclusions under the now prevailing valuation cases, would have resulted in rates covering something less than total cost because it would have understated both depreciation expense and the depreciation reserve. Consequently, the straight-line method, *other things being equal*, would require higher rates than any of the substitute methods because it proposes to recoup *all* of the depreciation expense. Assuming Nash to be correct, it scarcely is for him as an advocate of the private companies to prefer one rate level over another. That is the province of the commissions and the public. But why push this point further? Is it not a bit anomalous for private companies to be so solicitous of the rate payer? Is it not, historically, a sharp reversal of form?

Years of study of this problem have forced me to the conclusion that much of the furore over the depreciation problem has been caused consciously or unconsciously by the desire to defend understated reserves, and to justify high annual charges of depreciation in combination with ridiculously low reserve deductions in rate cases. The fallacies of this position have become so patent that not even the courts can be longer hoodwinked. Thus, I am sure that Nash will win no converts, and especially am I sure that his plea, for an undepreciated rate base coupled with a reserve for depreciation sweetened with interest credits at a rate of approximately half of the usual fair rate of return, will find few supporters. If I am wrong and his position should gain new supporters, then those of us who have believed in the general philosophy of private ownership subject to effective regulation may find our position so undermined that we will have no choice but to espouse out-and-out public ownership.

C. Woody Thompson

University of Iowa

Addendum: On Russia's Mineral Resources

HAVING lived and worked in the Soviet Union for seven years I was greatly interested in Mr. Walter H. Voskuil's article on "Postwar Russia and her Mineral Deposits" in the May issue of the *Journal*. Mr. Voskuil has presented an excellent overall picture of an important and generally-neglected subject. There are, however, some minor points which require clarification.

(1) Mr. Voskuil states (p. 199): "Steel production fell from a prewar (1913) level of 5% of world output to a low of 2% in the years following the war. The recovery since 1929 has been rapid and . . . is now approximately 20% of world output." Actually, the development has been more complicated. In 1921 steel production had fallen to the infinitesimal figure of 200,000 tons—much less than 2% of world output. Already recovery has been rapid from 1922 on, resulting in reestablishment of the prewar level of 4 million tons annually by 1929. Since then, mainly since 1933, new facilities have expanded the capacity to 22 million tons in 1941. However, 60% of this capacity has been destroyed by the invading enemy armies and has been only partly replaced by completion of new plants in the East and restoration of destroyed facilities in the West. While the exact level of present production has not been published, it probably does not exceed 15 million tons annually—considerably less than 20% of world output. It is scheduled to reach 25 millions in 1950.

(2) While the statement that "the Soviet economy . . . turns eastward rather than westward" (p. 199) is generally correct, it does not follow that "the cold, sandy, infertile areas of the Polish frontier will be forsaken for the semi-arid, mechanized farm areas of the western slopes of the Urals" or that the Russian mechanic seeks employment only in the cities of the Urals. Most areas of the formerly Polish West Ukraine are far more fertile than the slopes of the Urals, and all are much warmer; and there is an acute and continuing demand for mechanics in Moscow and Leningrad, Kharkov and Riga as well as in the East. The fourth Five-Year-Plan provides for considerable expansion of both industry and agriculture in the West as well as in the East, though the relative weight of the latter will continue to increase. In this respect, as in many others, the development of Russia parallels our own, gradually expanding across a continent from the Atlantic to the Pacific.

(3) Mr. Voskuil writes (p. 203): "The Ural zone . . . stretches on the west to . . . the Kama river and to Stalingrad . . . eastward . . . to Stalinsk." In Russian literature I have always found these areas treated as separate zones, as seems fully warranted by their characteristic differences from the Urals. The first is usually defined as the Volga ("pri-Volski") area, the second as West Siberia.

(4) In mentioning the demands made by the Soviet Union on Finland in 1939 the author includes (p. 212): ". . . bases on the Oeland Islands." Neither in 1939 nor later was such demand made. To the contrary, the Soviet Union offered to cancel the treaty which forbade Finland to fortify these islands.

Let me repeat that, in my opinion, these mistakes do not detract from the value of Mr. Voskuil's article and of the *Journal's* service in publishing it.

HANS BLUMENFELD

Philadelphia.

New Curricula for the Education of Planners

Columbia University announces for the winter of 1947, four new courses as a forerunner to an integrated, university-wide teaching and research program in urban and regional planning. Three of these new courses are being given in the evening in the Planning and Housing Division through the School of General Studies. The fourth, a late afternoon course, is offered through the Department of Public Law and Government. One is a lecture course, given by Hugh R. Pomeroy and called, "Planning and Housing Legislation and Administration." It will be a critical analysis of planning and housing legislation, agencies and procedures, including administrative organization at all levels of government. A second course, to be offered in the evening during the Spring

session, will be a "Planning and Housing Round Table." Here outstanding authorities will be invited to discuss current and important issues and problems in the field of housing, planning and urban development. A "Seminar in Urban Planning Research" will provide opportunity for both individual and collaborative investigation related to the development of urban regions. Frederick P. Clark will direct this seminar. The fourth course, entitled "Urban Planning," given by John D. Millett, will be a survey of the major problems confronting urban administration today, especially urban expenditures, land-use, housing, health and welfare activities.

University of North Carolina established its Department of City and Regional Planning in 1946 in order to provide a center of education and research in city and regional planning in the southeast. The planner is looked upon as one who must have an understanding of the general relationships involved in the planning process, an understanding of the theory and practice of design, skill in identifying the need for professional personnel in specialized fields such as design, engineering, law, public administration, and socio-economic analysis, and a capacity for working cooperatively with persons specializing in these fields. In recent years, with the development of the planning profession, planners and educators have seen that a planning curriculum should cut across traditional educational boundaries and utilize the resources of many departments in the university. In order to bring this about at the University of North Carolina cooperative relationships have been established with those departments whose disciplines are most concerned with the several phases of regional planning. Departments whose faculty members collaborate with the Department of City and Regional Planning by offering courses or by serving as consultants on planning problems include: the Departments of Economics, Mathematics, Political Science, and Sociology, the School of Public Health, the Institute of Government, and the Institute for Research in Social Science.

Public Utility Financing in the Third Quarter of 1947

PUBLIC utility security offerings totaled $743 millions during the third quarter of 1947. Table I shows the public utility long-term issues sold publicly. The largest publicly-sold issue was the New York Telephone Company's 2¾% refunding mortgage bonds amounting to $125,000,000 and sold at 103 to yield 2.62%. Other large issues were floated by the Duquesne Light Company ($75,000,000), Detroit Edison Company ($60,000,000), and Tennessee Gas Transmission Company ($40,000,000). The New York Telephone Company's issue also had the lowest offering yield and a net cost to the company of 2.67%. The weighted average offering yield of publicly-sold long-term bond issues in the third quarter was 2.74% and the average is based on 15 issues totaling $418 million in principal amount.

Table II shows the public utility long-term debt issues sold privately in the third quarter of 1947. The largest issue is the United Gas Corporation's 2¾% first mortgage and collateral trust bonds amounting to $116,500,000 and sold at par to yield to 2.75%. There were 18 privately-sold issues totaling $224,402,800 and the average offering yield was 2.76%.

The preferred stock issues floated in the third quarter of 1947 are shown in Table III. The total amount issued was $66,409,900 and there were 11 issues in all, the largest being the $16,000,000 Public Service of Colorado 4½% preferred (par value $100) sold in July at 100 to yield 4.25%. Other large issues were floated by Florida Power and Light Co., General Telephone Corporation, and Tennessee Gas Transmission Company. The average yield of the 11 issues was 4.25%.

There were 7 common stock issues in the third quarter of 1947 and these are shown in Table IV. The Consolidated Natural Gas Company $15 par common issue totaled $19,520,512 and was offered at $37.50 to stockholders through subscription rights and represented over half of the total amount issued.

Two serial offerings in the third quarter of 1947 are listed below. It will be noted that both issues were placed privately and that the

TABLE I—SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PUBLICLY, THIRD QUARTER, 1947

Company and Issue (A)	Coupon Rate (B)	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price (F)	Offering Yield (G)	Underwriters' Commissions (H)	Proceeds to Company (I)	Estimated Incidental Expenses (J)	Net Proceeds (K)	Cost to Company (L)
	%	$			%	%	%	%	%	%	%
Arkansas Power and Light Company First Mortgage	2⅞	11,000,000	1977	July	101.80	2.78	.791	101.109	.773	100.336	2.86
Florida Power and Light Company Sinking Fund Debentures	3¼	10,000,000	1972	July	101.00	3.19	.810	100.190	.600	99.590	3.27
Florida Power and Light Company First Mortgage	3	10,000,000	1977	July	102.60	2.88	.709	101.891	.500	101.391	2.92
Iowa-Illinois Gas and Electric Company First Mortgage	2¾	22,000,000	1977	July	101.40	2.68	.621	100.779	.864	99.915	2.75
Jefferson Telephone Company First Mortgage	3¼	20,000	1962	July	102.00	3.08	a	a	a	a	a
Mississippi Power Company First Mortgage	2⅞	2,500,000	1977	July	101.00	2.83	a	a	a	a	a
New York Telephone Company Refunding Mortgage Bonds	2¾	125,000,000	1982	July	103.00	2.62	.448	102.552	.792	101.760	2.67
Pacific Power and Light Company First Mortgage	3¼	26,900,000	1977	July	102.91	3.10	1.096	101.814	.613	101.201	3.19
Consumers Power Company First Mortgage	2⅞	25,000,000	1977	September	102.00	2.77	.330	101.670	.589	101.081	2.83
Detroit Edison Company First Mortgage	2¾	60,000,000	1982	September	101.125	2.70	.547	100.578	.500	100.078	2.75
Duquesne Light Company First Mortgage	2¾	75,000,000	1977	September	101.299	2.69	.459	100.840	.400	100.440	2.73
Engineer Water Works Corporation Debentures, Series B	4	125,000	1971	September	100.00	4.00	a	a	a	a	a
Iowa Public Service Company First Mortgage	3	3,500,000	1977	September	102.50	2.88	a	a	a	a	a
Monongahela Power Company First Mortgage	3	7,000,000	1977	September	102.00	2.90	.451	101.549	.924	100.625	2.97
Tennessee Gas Transmission Company First Mortgage	3	40,000,000	1967	September	102.25	2.85	1.125	101.125	.432	100.693	2.95
TOTAL OR WEIGHTED AVERAGE	.....	418,045,000	.....	.....	102.08	2.74	.599b	101.489b	.613b	100.876b	2.80b

a Information not available.
b Exclusive of issues for which information is not available.

TABLE II—SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PRIVATELY, THIRD QUARTER, 1947

Company and Issue (A)	Coupon Rate (B)	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price (F)	Offering Yield (G)
	%	$			%	%
Central Illinois Electric & Gas Company						
First Mortgage	2¾	2,500,000	1977	July	a	a
Colorado Central Power Company						
First Mortgage	2⅞	200,000	a	July	a	a
Dedham (Mass.) Water Company						
First Mortgage	3	150,000	1972	July	100.00	3.00
Gulf Public Service Company						
Sinking-Fund Debenture, Series A	3⅝	2,200,000	1972	July	102.00	3.40
Hartford Electric Light Company						
35-Year Debentures	2⅝	12,000,000	1982	July	100.5	2.60
Northern Pennsylvania Power Company						
First Mortgage	2¾	600,000	1975	July	100.00	2.75
Otter Tail Power Company						
First Mortgage	2¾	3,000,000	1977	July	100.00	2.75
Pennsylvania Power and Light Company						
First Mortgage	2¾	20,000,000	1977	July	100.50	2.72
Public Service Company of Colorado						
Convertible Debentures (b)	3	6,481,100	1962	July	100.00	3.00
Convertible Debentures	3	518,900	1962	July	a	a
Public Service Company of New Mexico						
First Mortgage	2⅞	6,800,000	1977	July	100.625	2.85
Southwestern Electric Service Company						
25-Year Bonds	3¼	2,250,000	1977	July	a	a
American and Foreign Power Co., Inc.						
Sinking-Fund Debentures	3½	35,000,000	1968	August	a	a
Dedham Water Company						
First Mortgage	3	150,000	1972	August	100.00	3.00
Iowa Electric Light and Power Company						
First Mortgage, Series D	2⅞	3,000,000	1977	August	100.00	2.88
Northwestern Public Service Company						
First Mortgage	3	1,000,000	1973	August	a	a
Public Service Company of Indiana, Inc.						
15-Year Convertible Debentures (b)	2¾	9,939,800	1962	August	100.00	2.75
15-Year Convertible Debentures	2¾	1,138,000	1962	August	a	a
Sierra Pacific Power Company						
First Mortgage	2⅞	975,000	1967	August	101.00	2.80
United Gas Corporation						
1st Mort. & Collateral Trust Bonds	2¾	116,500,000	1967	August	100.00	2.75
TOTAL OR WEIGHTED AVERAGE	.....	224,402,800	.....	.....	.....	2.76c

a Information not available.
b This portion of issue sold to stockholders.
c Exclusive of issues for which information is not available.

TABLE III—SUMMARY AND ANALYSIS OF PUBLIC UTILITY PREFERRED STOCK ISSUES OFFERED THIRD QUARTER, 1947

Company and Issue	Dividend	Principal Amount	Month of Offering	Offering Price	Offering Yield
	%	$		$	%
California Electric Power Company (Par $50)	2.50	3,000,000	July	52.00	4.81
Coast Counties Gas & Electric Co. (Par $25)	4.00	1,625,000	July	26.00	3.85
Coast Counties Gas & Electric Co. (Par $25)	4.00	1,875,000	July	26.00	3.85
Mississippi Power Company (Par $100)	4.60	2,009,900	July	104.00	4.42
Public Service Co. of Colorado (Par $100)	4.25	16,000,000	July	100.00	4.25
Potomac Electric Power Company (Par $50)	3.60	7,000,000	August	51.75	3.48
California-Pacific Utilities Co. (Par $20)	5.00	900,000	September	20.50	4.88
Florida Power and Light Co. (Par $100)	4.50	10,000,000	September	100.00	4.50
General Telephone Corporation (Par $50)	4.40	10,000,000	September	50.00	4.40
Monongahela Power Company (Par $100)	4.80	4,000,000	September	104.25	4.60
Tennessee Gas Transmission Co. (Par $100)	4.25	10,000,000	September	103.00	4.137
TOTAL OR WEIGHTED AVERAGE	.....	66,409,900	.....	.....	4.25

TABLE IV—PUBLIC UTILITY COMMON STOCK OFFERED DURING THIRD QUARTER, 1947

Company (A)	Principal[1] Amount (B)	Month of Offering (C)	Offering Price (D)
	$		$
Cincinnati and Suburban Bell Telephone Company—(Par $50)	5,006,900	July	50.00
Consolidated Natural Gas Company—(Par $15) [2]	19,520,512	July	37.50
Florida Power Corporation—(Par $7.50)	1,417,078	July	14.00
Consolidated Natural Gas Company—(Par $15)	1,155,750	August	46.00
La Crosse Telephone Corporation—(Par $10)	128,316	August	12.00
South Atlantic Gas Company—(Par $5.00)	190,400	September	8.50
San Diego Gas and Electric Company—(Par $10.00)	4,350,000	September	14.50
TOTAL	31,768,956	.....	.....

[1] Calculated at offering price.
[2] Offered to stockholders through subscription rights.

details of price and offering yield are lacking.

$268,000	Burlington Transportation Co., 3½% promissory notes, due in 80 quarterly instalments. Placed privately.
$2,800,000	Central and South West Corp., 3% unsecured serial notes due semi-annually, Jan. 1, 1954-Jan. 1, 1959. Placed privately.

The volume of offerings of public utility bonds in the first three quarters of 1947 is running ahead of offerings in the same period in 1946. The volume of preferred stock offerings, however, is not quite as great as in the first three quarters of 1946 but is larger than during the war period, 1939 to 1945.

R. G. DUDLEY
Statistician
Public Service Commission of Wisconsin

W. H. EVANS
Rate Analyst,
Public Service Commission of Wisconsin

Book Reviews

The Analysis of Social Change, Based on Observations in Central Africa. By Godfrey and Monica Wilson. Cambridge University Press, 1945. pp. 177. $2.25.

Primitive societies have been the proving ground for more than one sociological theory. But rarely has the scope of the endeavor been as broad as that attempted by Mr. and Mrs. Wilson. The authors start with the hypothesis "that the total degree of dependence upon others . . . is the same in all societies." (page 40). This somewhat dubious proposition soon mushrooms into a series of corollaries involving many current sociological concepts. Social structure, social circulation, community, scale, equilibrium, impersonality are a few of the topics included. From these mental exercises emerges the tentative conclusion "that our present disequilibrium is due to the outrunning in the scale of the religious by the material elements of society." (page 173) Empirical evidence supporting this conclusion was drawn from the authors' experience in Central Africa.

Fortunately the book contains a really penetrating account of the activities, organizations and values of the groups living in Nyasaland, Northern Rhodesia and part of Tanganyika. Readers may also enjoy the process by which the Wilsons construct a system of social theory. Scattered throughout the book are such thought-provoking statements as "as societies increase in scale the relative influence of the material environment diminishes for the control of it increases" (page 43); "social structure is the systematic form of limitation by which eccentricities are checked and complementary diversities are preserved: it is the inherent, negative condition of human relations" (page 47); "increase of scale then, though necessarily involving greater centralization, produces not less but more freedom in personal relations, not less but more local autonomy" (page 114).

WALTER C. MCKAIN, JR.

Bureau of Agricultural Economics

Elements of Soil Conservation. By Hugh Hammond Bennett. New York: McGraw-Hill Book Company, Inc., 1947. pp. 406. $6.50.

This book, according to the author, "undertakes to brief for the student the more important aspects of the serious problem of soil wastage and methods of soil conservation." Of the 22 chapters covering 375 pages, seven deal with the causes, extent, rate and effects of soil erosion; seven with control measures suitable for crop and pasture lands and for streambanks; and six discuss important related phases of land management such as water spreading in semiarid regions, drainage, irrigation, small dams for water storage, and the planting of windbreaks and the care and maintenance of forests and wildlife. The remaining two chapters describe the federal programs for soil conservation and farm planning.

Elements of Soil Conservation is general and non-technical in character. It is a brief, well-illustrated review of a subject which involves many sciences and interrelated factors, and it should therefore attract the general reader, beginning students in soil and crop sciences, and anyone seeking a broad acquaintance with principles and practices. The chapters on control measures, are notably simple, clear and informative. These chapters, however, do not provide specific recommendations for particular soils or local conditions. "Elements" is not a condensation of H. H. Bennett's *Soil Conservation* but rather a summary of the "how and why" of soil conservation practices.

Unfortunately, the author has carried into the present book some of the attitudes of a protagonist for the particular agency he heads and for its methods. On page 157 he says: "Soil conservation is the youngest of the major agricultural sciences." Actually, however, it is not young in certain countries where the soil has been maintained in a productive state for centuries. Further, soil conservation is a technology rather than a science since it

"consists of safeguarding all kinds of useful land" and "is a matter of using land efficiently under a farming system that safeguards it from erosion" (pages 128 and 127, respectively). The practices used are derived from various pure and applied science such as physics, engineering, botany, agronomy, soil science, horticulture, and many others. The majority of these practices have been recognized as valuable and have been recommended widely by specialists in the various fields concerned. The contribution made by the U. S. Soil Conservation Service is that it attempts to weave them together into a coordinated plan for the land on each individual farm, by giving advisory service to each individual farm and farmer. The coordinator of accumulated information and recommendations cannot claim, however, to have established a new and major science, nor can he take credit for all the benefits obtained by the utilization of improved practices developed by others but incorporated by him into the farm plan (page 3).

In general, the national or federal program is over-emphasized and alternative programs and approaches developed locally are underemphasized. However, the informed reader will be astonished to find that one federal agency, the Bureau of Plant industry, Soils, and Agricultural Engineering, is described in seven lines without using the word "soils" and without mentioning its splendid researches in soil chemistry, physics, and classification, irrigation, dry land farming, and fertilizer manufacture and use.

R. J. MUCKENHIRN

University of Wisconsin

American Planning. Past—Present—Future. By Cleveland Rodgers. New York: Harper & Brothers, 1947. pp. 290. $3.00.

The past, present and future of American planning is a sizable bite for even the most competent author to chew off. Fortunately, Cleveland Rodgers who has considerable experience both in planning,* and as a writer and newspaper man, reveals he can digest as well as chew this mouthful. Books about America are in vogue and though *American Planning* doesn't attempt the scope of Gunther's *Inside USA* or the analysis of Brogan's *The American Character*, it belongs on the same shelf.

Mr. Rodgers' earlier book (*New York Plans for the Future*) now seems like a pilot study for this current, broadened review of planning. In many ways *American Planning* is reminiscent of the Werner Hegeman volumes on city planning and housing and Lewis Lorwin's recent *Time for Planning*. It has elements of the historical and sociological perspective of the former, the crisp relating of political economy to planning, of the latter.

In a book about planning written during wartime the device of letting a young, questioning aviator speak for the author has point: "In a plane one never knows, or cares, where states begin and end . . . We see farms, villages and cities, but states are invisible." To a flier ". . . our economic system seems at least as complex as a B-29, yet it is supposed to operate without coordinated controls." The lessons of the air age are indeed double-edged with the positive, creative implications as yet scarcely tapped.

The descriptive chapters about America are provocative and a flying cockpit provides a superb vantage for relating the natural environment to that fashioned by man. This is what I like to call the Patrick Geddes "Outlook Tower approach," a unique combination of a real and historical survey, broad in perspective, rich in detail. There is too little of this approach, unfortunately, and had the entire book been on this order, the total result would have been happier. For in the other chapters, especially on consideration of planning, the contribution is far less.

Commissioner Rodgers is a strong protagonist of all types of planning (the overall or totalitarian excepted). He hammers away that planning always has been with us, that it is democratic, necessary. To him ". . . national planning is eminently respectable, thoroughly American and patriotic. It is entirely compatible with democracy, with the federal, representative form of government, and with our economic and business systems. It is, in fact, an essential part of our way of life."

The sections on the evolution of planning, though not as imaginative as the physical descriptions of the United States are far better than the political-economic philoso-

*Mr. Rogers has been a member of New York City's Planning Commission since its inception.

phizing. His profiles of Washington and Jefferson as planners are informative and charming. "Washington was a master planner before he became a master builder and founder of the nation." He feels that the first president's early training as a surveyor and agriculturalist gave him an insight for his later work which no other science or occupation then open could have achieved; and that it was Washington's interest in land planning and transportation which led to a meeting at Mt. Vernon to consider the Potomac Canal Project, out of which grew the fateful Annapolis meeting. Jefferson's "planning for liberty began with the land" and although his approach differed from Washington's, he too showed stature as a national planner as well as a president. The conclusion that ". . . in many important respects they [our founding fathers] were collectivists but they were not socialists or communists" epitomizes Rodgers' own position.

Positive statements which don't beat about the bush are more often welcome than not but there is a fine line between candor and dogma. I would question these unqualified comments: "It should be apparent that, while they are related, administration and planning are different functions": ". . . rational planning, from the days of George Washington to the present, has been frustrated in large measure by failure to solve the problem of the Negro in the United States"! ". . . most national planning, like aviation, is merely applied mathematics. The social sciences are based on factual material quite as reliable as that underlying much so-called exact science." This type of thinking and theorizing vitiates the many attractive features of the monograph.

However, even if he does go off on a high gallop at some points he has also the virtue of reshuffling certain valuable ideas which have had too little light. Josiah Royce on "community and insurance" and Willard Gibbs on thermodynamics may come in for some needed re-evaluation, thanks to Mr. Rodgers.

The author's hypothetical airman muses: "It is curious how Whitman sticks with us; we can't leave him on the ground as we do most of our favorite poets and writers." Rodgers, in addition to his planning and journalistic activities, is the author of *The Life and Work of Whitman, 1846-48.* Possibly he had these lines of the poet especially in mind:

"O days of the future I believe in you—I isolate myself for your sake,
O America because you build for mankind I build for you,
O well-beloved stone-cutters, I lead them who plan with decision and science,
Lead the present with friendly hand toward the future."

RITA DAVIDSON

New York City

Soil and Steel. By P. Alston Waring and Clinton S. Golden. New York: Harper & Brothers, 1947. pp. 233. $3.00.

An "intellectual" engaged in farming and an officer of the United Steel Workers brought to the writing of this book shoulder-rubbing intimacy with farmers and industrial workers. Profoundly disturbed by the evidences of mistrust and misunderstanding between these two major groups of citizens, the authors undertook to analyze the causes, psychological, historical and institutional, of the cleavages and to point out the areas of cooperation open to farmers and wage earners.

The central problem raised by the book goes even deeper: "How can a democratic society get along if it is split up into self-interested groups?" Can Big Business, Big Agriculture and Big Labor be depended upon to strike some kind of balance, or Big Government regulate them successfully? Their answer is that such cleavages pave the way for fascism and undermine democracy, and that the way out is to be found in the subordination of group interests to the public welfare and an effective intergroup cooperation to find solutions for our social problems.

It is a vigorous, stimulating book with substantial factual material.

DON D. LESCOHIER

University of Wisconsin

The Farmer in the Second World War. By Walter W. Wilcox. Ames: Iowa State College Press, 1947. pp. 410. $4.00.

This is a good history of agricultural events leading up to the second world war, the war period itself, and its immediate

aftermath. Perhaps a more correct, although less catchy title, would have been "Agriculture in the Second World War," because the book deals with the agricultural industry as a whole rather than with the performance and experience of farmers as individuals.

Of the 23 chapters in the book, 4 are concerned with orientation, that is, with the economic position of agriculture at the outbreak of the war, the public institutions serving agriculture, and the reaction of agricultural agencies to the early war impacts. Three chapters deal with the production aspects of agriculture and two with marketing and management of the food supply. One chapter is concerned with the effects of the war on soil and forest resources and another with the use of manpower on farms. Seven chapters discuss price policies as they relate to specific problems and as a general appraisal. One chapter is concerned with world agriculture and trade developments; another with agriculture in relation to industry. Concluding chapters deal with the changing role of the Department of Agriculture, the growth and influence of farm organizations, and finally, with a consideration of farmers and farm problems at the end of World Wars I and II. The closing note is that the key problems of farmers have not yet been solved.

The general conclusions to be drawn from this book appear to be that the production record in agriculture was good, but that the distribution record was not quite so good, especially with respect to the management of food. Following is a quotation from the first paragraph of chapter 16 which deals with management of the food supply: "Facts show that the record of agricultural production during the war is far brighter than the record of food utilization. Why did we succeed so well in shifting and increasing agricultural production—and succeed in making food available to our allies during the war—yet in the first postwar year almost fail in making food an important factor in writing the peace?"

There were plenty of troubles along the way, in both production and distribution of food. Perhaps the central core of the difficulty was this: No nation can fight a modern war without controls and restrictions. And restrictions in a democracy are resented unless people understand the reasons and the need for them. The author asks the question as to whether the better record in food production was due to more experience in, and better management of production progams. Perhaps it was also due to the fact that farmers understand production problems better than the general public understood need for public participation in management of food supply.

In retrospect, many aspects of the wartime food program can be criticized. But frequently a different line of action would have required added restrictions, and it seems doubtful whether additional restrictions would have had the full support of public opinion. Perhaps they could have had this support if information concerning reasons and needs had been more effective.

The author brings out very well the fact that, at the beginning of the war, farmers and agricultural workers, as well as the general public, were conditioned by the surplus psychology of the interwar years. This conditioning influenced the attitude of Department agencies, Land Grant Colleges, and farmers themselves toward the early impacts of the war. Farmers and most agricultural workers were not easily convinced that the need for all-out production was real. When that need became fully apparent to those who were acquainted with wartime food needs and with agricultural production capacity, it was not yet apparent to some who participated in decisions concerning limitations on the manufacture of farm machinery and other production supplies. A somewhat larger allocation of materials for farm machinery and some other materials at the early stages of the war would have increased food production. At the same time more manpower could have been released for war industry.

In the early part of the war period there were two extreme schools of thought with respect to agriculture. One was that we could have "both guns and butter," and the other that we had to choose the guns and live on "bread and gravy." Events proved both extremes to be wrong, but the United States came much closer to having both guns and butter than to living on bread and gravy. The author points out that civilians in this country had the happy experience of increasing their average level of food consumption during the war at the same time that food was provided both for the military services and for our allies. But part of the higher consumption came at the expense of

food reserves that later proved to be badly needed to meet the famine needs that were part of the first aftermath of war.

The real costs of war should be reckoned in terms of losses in manpower and physical resources. The chapter on manpower brings out the relatively larger draft deferments in agriculture than in other employment groups. Farm population, of course, decreased a great deal in the war years and this caused labor shortages, especially in areas where it was not feasible to shift to labor-saving methods. But in terms of postwar income prospects, a shift of manpower away from farms is probably a gain to those who remain in agriculture, and a social gain as well, if a high level of employment can be maintained in this country. Losses in land and other physical resources are difficult to measure: The author quotes from a report by George W. Collier of the Soil Conservation Service, which estimates that annual soil losses increased 3 percent for the nation as whole. Perhaps more damage has been done since the war ended by plowing up lands unsuited for crop production to grow wheat in the Great Plains and other areas. But for a nation at war, the cost, in terms of irreparable damage to soil resources, has not been large.

A few minor details deserve some comment. The increase in use of fertilizer is measured in tonnage of materials rather than in plant nutrients. The conclusion, therefore, is that use of fertilizer increased by one-half between 1939 and 1944-45, whereas, if measured in terms of total plant nutrients, the increase would be about three-fourths. Considerable stress is laid on the extra carry-over of feed grains at the beginning of the war and its contribution to the increase in livestock production. The larger stocks of feed grains alone accounted for about 10 to 12 percent of the increase from 1941 to 1945. The greater imports of feed grains and wheat and the larger quantities of wheat diverted to feed were more important than the extra carry-over, but altogether the increased stocks, feed imports, and domestic wheat fed apparently accounted for less than 40 percent of the increased production of milk, hogs, and poultry. The statement as to the effect of dairy feed payments (pay 159) seems inconclusive in view of the downward trend in milk production before the payments were instituted, and the opinion of most specialists who are familiar with the dairy industry that there would have been a large drop in production of milk during 1944 if feed payments had not been instituted.

On page 185 the acreage of peanuts picked and threshed in 1942 is compared with the goals, but it is not emphasized that the goals represented a 215-percent increase in acreage and that that acreage in 1942 was 80 percent larger than in 1941, which was an outstanding achievement.

In the discussion of price supports on fruits and vegetables, the suggestion is made that they should have been established in a way that would have provided lower support prices if average yields were higher. In this connection, it should be recognized that frequently yields are very high in one area, whereas another and perhaps smaller producing area may have lower-than-average yields.

SHERMAN E. JOHNSON

Bureau of Agricultural Economics, Washington, D. C.

The Future of Housing. By Charles Abrams. New York: Harper and Brothers, 1946. pp. xix + 428. $5.00.

Layman and expert alike will find in this book an authoritive, comprehensive, and up-to-date treatment of the plight and prospects for American housing. Written by a foremost authority in the field of housing, and bearing every evidence of painstaking research backed up by rich personal experience and observation, *The Future of Housing* must be ranked as a definitive treatise in its field.

Nearly one half of the book is an elaboration of the proposition that: "The housing issue will be understood only when viewed against the background of America's social climate and economic patterns" (p. 3). The housing problem, it is shown, is but symptomatic of a fundamental and pervasive pathology that runs through real estate entrepreneuring, the building industry, the mortgage system, the tax structure, labor organization, and indeed the very norms and ideals of home ownership.

While technological rationalization and large-scale organization have proceeded apace in other fields of endeavor, building and real estate have remained a "Lilliputian

system of enterprising in what is a Gargantuan undertaking" (p. 80). The author demonstrates the inefficiencies (amounting to as much as 53% of cost, p. 149) which attend the archaic handicraft methods of construction, and the chaotic, irresponsible, and small-scale entrepreneurial system which characterizes the home building function. More seriously yet, this system is apparently quite incapable of meeting the housing needs of people with purchasing power, let alone the lower one-third that is "ill fed, ill clothed, and ill-housed." Between the two world wars the industry averaged 485,000 new nonfarm homes every year (p. 69). The National Housing Agency estimates that an average of 1,260,000 new housing units each year will be necessary to meet the country's immediate requirements (p. 67). Abrams sees no possibility that private building can measure up to this.

The workings and effects of the mortgage system receive particularly thorough treatment. Exorbitant interest charges, the deficiency judgment practice, and the illusory security which the so-called home owner derives from his equity, all combine to vitiate the meaning of home ownership.

In his approach to a solution Abrams reviews such earlier programs as limited dividend housing, cooperative housing, and investment housing, finding none of them really adequate to the magnitude of present-day requirements. Nor does the author see in prefabrication, general wage increases, or building cost reductions any substantial alleviation of the problem. Only a frank recognition of the necessity for governmentally subsidized housing can pave the way to a solution of the housing problem.

The latter half of the book consists of a thorough and critical survey of the various governmental housing programs: FHA, HOLC, PWA, USHA, and the war housing agencies. PWA, and above all, USHA demonstrated clearly the feasibility of clearing slums and rehousing low-income families decently and economically. FHA, HOLC, and PWA are criticized, respectively, for merely buttressing the existent mortgage system, unduly ballyhooing home ownership, and overly centralizing the planning and control of housing projects in disregard of local needs and responsibilities. USHA receives more sympathetic treatment, as having fairly well combined: (1) federal subsidy and federal approval of sites, plans, rentals, etc., with (2) local financing and local responsibility and discretion.

The last four chapters of the book set forth and develop ten broad aims of a housing program (p. 357 *et seq.*). They should be studied by every person who is interested in a program that will adequately house the American population. As developed by Abrams they are feasible, realistic, and quite "within the traditional framework of our economic and political patterns" (p. xix).

The book is unquestionably an imperative for any person who wishes to be informed and enlightened about the housing problem.

WALTER FIREY

University of Texas

Economic Freedom for the West. By Wendell E. Berge. Lincoln: University of Nebraska, 1947. pp. 149

Wendell E. Berge has presented a comprehensive survey of the problems, potentialities, opportunities, and benefits of the development of western economy. He describes vividly the opportunity for the development of the mineral, power, and irrigation resources of the West, and their importance to the nation. The fifteen western states are described as a great area of undeveloped resources. Previous to World War II the development of these resources was retarded by monopolies, including U. S. and world cartels, discriminatory freight rates, and the lack of needed capital. He states that the West was caught in economic pinchers of monopoly groups, prohibitive freight rates, and the exclusion of western products from U. S. and world markets by monopoly and cartel agreements. During the war, when many of the barriers to western trade were broken down and there was a great need for both raw and manufactured materials, the attention of the vast resources of the West was really forced upon the people and upon the federal government. To produce, process, and manufacture western resources, the government and private agencies spent more than three billion dollars in the development of mines, roads, processing and manufacturing plants. The United States Government let twenty-nine billion dollars of war con-

tracts to plants located in the west. The goods and supplies contracted for included ships, airplanes, food, mineral and chemical products, ammunition, and a large number of miscellaneous items.

The large war development in the West provided the first opportunity for this area to develop industrially to a point which indicates the feasibility of greater future development. According to the author, before the war the bulk of the steel consumed in the western states was shipped several thousand miles by rail and water. The high cost of steel delivered to the West made it difficult, in many cases impossible, for western industry to compete with other areas with a more favorable supply and price of steel.

The long haul of steel and other similar supplies was continued for a long period of time in face of an adequate supply of iron ores and coking coal. During the war the United States needed steel on the West Coast but could not be supplied by eastern mills, nor could the country afford the transportation needed to transport steel from the East to the West. As a result of this situation, with government support a large steel plant was built at Geneva, Utah, and another one at Fontana, California. Berge describes specifically how these two steel plants are in a position to supply the western states with the steel needed at lower costs and that they will play an important part in the economic freedom for the West unless, through discriminatory freight rates and monopoly interference, these two plants are not permitted to operate.

Berge is of the opinion that the immense anount of industrial development during the war period served to demonstrate the feasibility and the importance of the industrial development for the West. He is, however, of the opinion that this development of economic freedom for the West is dependent largely upon whether or not we will maintain free enterprise and prohibit through the Sherman Anti-Trust Laws the monopoly control.

It is the opinion of the author that the future economic development of the West is dependent largely upon federal protection from monopoly control, the support of the federal government for development of the resources of the West, and the federal assistance and guidance provided in reconverting the defense plants over to post-war production for civilian use.

In reading this book one is impressed that the author has somewhat over emphasized the economic independence and freedom of the West resulting from the industrial development during the war period and the part enforcement of the Sherman Anti-Trust Laws will play in the economic development of the West. Also no mention is made of the great problem the West now faces through the government control of many of the vast resources located in the West. The great population centers of the East naturally partly control the government's policy relative to the development of the resources of the West and the support given to private enterprises.

Although the government's policy will play an important part in the economic development of the West there are many economic factors not mentioned by Mr. Berge which have a direct bearing on the West and its development.

W. P. THOMAS

Utah State Agricultural College

Land Use in Boston. By Walter Firey. Cambridge: Harvard University Press, 1947. pp. 355. $5.00.

The title of this book is deceptive. Professor Firey is really reappraising some of the current theories of urban ecology by studying phases of Boston's urban land problems. His chief thesis is that cultural values and social systems are *the* crucial elements in explaining both the framework and the actual patterns of land use. Previous descriptive and "rationalistic" theories, such as those of Burgess, Hoyt, McKenzie, and Weber are castigated not merely for neglecting such considerations but for failing to make them the central core of their analysis.

The novelty of this presentation lies not in the idea itself, but the emphasis and ingenuity of its application. Professor Firey believes that the concentric and sector theories imply an inevitableness of and a direction by economic forces not supported by the facts, plausible though the hypotheses may seem cartographically. Different types of land use in Boston are analyzed to check these views. In the development of Boston, significant

deviations from the prevailing theories are discovered both in the character and the internal aspects of the spatial patterns. Firey apparently believes that similar variations hold for other cities as well. He then examines the fashionable Beacon Hill and Back Bay residential quarters as well as some famous historical sections in Boston and is impressed at the unusual strength that sentiment and prestige can sometimes muster in resisting and screening economic pressures which normally would change the character of the areas.

There are patterns of land use, Professor Firey grants, such as the retail shopping center that more sensitively reflect the competition of uses. But even here, he submits, a sociological approach is essential for a deeper understanding of its "contractualistic" and historical contingent character. When Firey analyzes the ethnic ghetto in the North End and a rooming house district in the South End, he finds again that the peculiar spatial patterns are stamped by the specific cultural and kinship relations in these sub-social systems. He concludes his analysis, therefore, by suggesting that only a cultural approach to ecology seems to offer any hope of a more systematic and embracing basis for generalization in this domain.

Firey's thesis is significant because it is the first major effort to apply theoretical sociological concepts to land use analysis. Previous efforts were derivatives of marginal utility analysis in economics, abstract, deductive models or purely descriptive studies. Firey forgets, however, that in searching for an explanation of economic forces, economists can for many purposes legitimately take for granted non-economic data and variables. Criticism is justified only when the limitations of the analysis are overlooked. Sociologists like Firey approaching similar problems with new variables will likewise assume much about the economic mechanism, especially when the latter is viewed as an instrumentality for achieving the ends of a social system. There is no necessary contradiction in the two approaches: in fact, the results of these and other lines of inquiry ought eventually to be incorporated in a broader and richer conceptual system.

Professor Firey errs, therefore, when he seeks to buttress his position by treating his predecessors like scapegoats, not to mention distorting their views. There are already links between the sociological and economic approaches. Developments in welfare economics distinguishing social and individual costs may find significant applications here. Another unexplored frontier is the influence of planning programs in deflecting economic forces inimical to the development of socially desirable but low or non-revenue producing land uses. On the other hand, Professor Firey's concepts still require fashioning into useful tools, as is evidenced by the obvious practical truisms advanced at the end of his volume. These proposals, as the author himself hints, may not be necessary consequences of his principle of proportionality (borrowed from the economists). A sociological methodology is indeed important, but if theory is to lead us to *new* practical insights, a more precise, detailed and rigorous analytical apparatus is needed than is yet available.

LLOYD RODWIN

Massachusetts Institute of Technology

Dust Storms, 1850-1900. By James C. Malin. Special Reprint from Kansas Historical Quarterly, of three articles appearing in the May, August, and November 1946 issues.

This collection of reprints from the Kansas Historical Quarterly forms a small book. The articles illustrate the strength and some of the weaknesses of the historian's approach to contemporary problems.

The articles are excellent in provision of historical perspective. Recent events often impress us as unique when in fact they are not. Dust storms were encountered in eastern Kansas before 1860; some of them apparently severe. As settlement progressed westward across Kansas in the ensuing decades, more and more reports of dust storms, particularly from the central and western parts of the state, were received. At first these were chiefly newspaper stories and editorials. Later, official weather records were available. But for many years the records were incomplete and lacked standardization. The evidence is clear that blowing soil is an old phenomenon on the Great Plains, even under the "natural" conditions preva-

lent before white men plowed the sod. The influence of man, particularly by use of fire, was not unimportant earlier. The articles contain a wealth of descriptive material, year by year, with accounts from various parts of the state.

A weakness of the historian's approach, exemplified in these articles, is its essentially non-quantitative character. Were the early day dust storms equal in severity to those of the 1930's? The author clearly thinks they were, and that the intense popular interest in the latter was out of proportion to their actual importance. Most conservationists and soil specialists would not accept his conclusions on this point. The historical record as cited in these articles, in spite of its wealth of narative detail, is insufficient evidence for a positive conclusion on this crucial question. He concludes that "the damage incident to agricultural operations should and can be minimized by careful soil management." Most people would agree with this conclusion but many would differ with his emphasis upon the "naturalness" of severe dust storms. Admittedly accurate quantitative records have been available only in fairly recent times. Perhaps historians of the future will be able to use them in more precise analyses.

MARION CLAWSON

U.S. Bureau of Agricultural Economics
San Francisco, California

The Soil and Health. A Study of Organic Agriculture. By Sir Albert Howard. New York: The Devin-Adair Co., 1947. pp. 320. $4.00.

The author has a stated threefold purpose for his book; namely, first, to emphasize the importance of solar energy and the vegetable kingdom in human affairs; secondly, to record his own observations and reflections—accumulated over 47 years—on the occurrence and prevention of disease; and, third, to establish the thesis that most of the disease can be traced to an impoverished soil.

Early in the professional career of Sir Howard—while at his post in India—he gained his first real evidence "that the foundations of all good cultivation lie not so much in the plant as in the soil itself: there is so intimate a connection between the state of soil, i. e., its fertility, and the growth and health of the plant as to outweigh every other factor." His work with Indian crops, especially wheat, afforded such basis of evidence to him.

"The first place in post-war plans of reconstruction must be given to soil fertility in every part of the world," is a needed objective, as viewed by Sir Howard. To this end he points out that the man in the street must do three things: (1) create examples of what a fertile soil can do, (2) insist that public meals in which he is interested are composed of the fresh produce of the soil; and (3) vote to compel his various representatives—municipal, county, and parliamentary— to see to it that his country's soil is made fertile and kept so, and that the public health system is based on fresh produce of land in good heart. Along these lines the author makes his conclusion in a sentence packed to the fullest with real merit: "The real Arsenal of Democracy is a fertile soil, the fresh produce of which is the birthright of the nation." Even though some may differ with Sir Howard regarding the word "fresh"—leave it out, and few could rightfully fail but to applaud so worthy a statement.

The book is compiled principally in four major divisions: Part I. "The Part Played by Soil Fertility in Agriculture," Part II. "Disease in Present-Day Farming and Gardening," Part III. "The Problem of Fertilizing," and Part IV. "Conclusions and Suggestions." In these Sir Howard gives a vivid treatise on the balances created by Nature (stressing humus to the fullest) and proceeds to show, by tracing historical agriculture down through (his selected) research records, what man has done in working the land without proper recognition and understanding of Nature's ways.

He traces in some detail the farming systems of England from the 13th century to date, and brings out his points regarding the benefits of humus to yields and leads up to and through what he considers the "two fatal mistakes" in British farming introduced in middle 19th century, namely, introduction and us of artificial fertilizers, and introduction and dependency upon inportation of feeding stuffs for livestock. The profit motive in farming, which followed and still exists, has, according to Sir Howard, caused a vicious cycle of ever increasing quantity of production per man with more and more dis-

ruption of nature's balance—a shortsighted policy causing "banditry" on future generations. Soil erosion and wastage has resulted. He says: "In this he [the farmer] has been the unwilling, but also the rather blind, pupil of an authority he has been taught to respect: the pundits of science have urged him to go forward and have made it a matter of boasting that they have done so."

The author condemns artificial fertilizers and points out that from Liebig to date blunders, for which experiment stations must be held responsible, have increased. His contention is that the problems of agriculture are a vast biological complex and the usual sub-divisions of science into chemical, physical botanical and others (first, chiefly for teaching purposes, later for experiments) has been and is a serious mistake.

The author's contentions regarding soils (fertility) and disease—especially on health of livestock—appears to the reviewer to lack convincing proof. In fact, repeatedly observations only for what appear to be isolated cases are cited. Some sections ramble without point, for example one on "Concentrates and Contagious Abortion" (dairy cattle) practically ignores the subject after the opening two paragraphs and praises roughages grown without "artificials" (chemical fertilizers) and condemns concentrates (oil cakes) as rations for the dairy animals. Incidently, the midwest American agriculturist may judge it to be a good piece in support of what he may recognize as relating to grassland farming.

In a very short chapter on "The Nature of Disease," Sir Howard concludes that "the heart of the subject (disease) must reside in the proteins," His basis is almost entirely on a premise of Mr. J. E. R. McDonagh, wherein the premise is expounded that every body is a condensation product of activity, every body pulsates, protein in sap of plants and blood of animals in such a body, the matrix of structures of plants and of the organs and tissues of animals, if soil does not give needed nourishment to plants, the protein over-expands, and this leads to a portion of the protein being broken off which piece is a virus. In animals and man, it is held, this same principle leads to invasion activity of microorganisms resident in the intestinal tract. Thus, the rise to disease. His solution, of course, is proper humus in the soil—man's way of effecting climate—imperfectly synthesized protein replaced by normal protein.

The author of *The Soil and Health* fails entirely to satisfy even the most elementary questions that may be offered along the lines: What about the economics of farming with and without artificial fertilizers? Not all farms by any manner of means are either large enough or so situated relative to climate or comparative opportunity of enterprises that they may have livestock to provide compost manure supplies. Likewise, grass and other humus-building vegetation in sufficient quantity, and continuously on the same area for numbers of years, can hardly be expected to be the only or most practical solution to needs for fertility maintenance in the economy of this period over vast portions of many farming areas.

Without answers to the economic respects, Sir Howard's principle themes must be taken as only ideals, or possibilities mainly where all the factors of production are equally free and the profit motive in farming is entirely suppressed or absent.

MELVILLE H. COHEE

Soil Conservation Service

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